# Burnout syndrome and physical activity in male nursing professionals of Primary Health Care in the state of Bahia, Brazil.

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## Abstract

Introduction: Burnout Syndrome (BS) is a response to chronic stress at work, greatly affecting nursing professionals due to their work specificities. The physical activity can be strategic in reducing the effects and prevalence of BS. OBJECTIVE: Measure the association between physical activity and BS in male nursing professionals in Primary Health Care in the State of Bahia/Brazil.

Methods: Data from a cross-sectional study carried out in the state of Bahia/Brazil in the years 2017/2018, with 136 male nursing professionals in Primary Care were analyzed. A questionnaire with sociodemographic, work, lifestyle, human biology and the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) was applied. The main exposure variable was physical activity, and the outcome was BS. Frequencies and Odds Ratio (OR) between exposures and outcome were obtained using Stata software, version 11.0.

Results: Out of the total, 85 practiced physical activity, the majority being young (73.24%), without a partner (68.18%) and without children (74.63%). Among the physically inactive, those who predominated were older (49.23%), had a partner (42.86%) and had children (49.28%). The overall prevalence of BS was 31.61%. The association between physical activity and BS in the adjusted model presented OR=4.22 and p=0.037. The association between BS and low physical activity practice in male nursing professionals was statistically significant.

Conclusions: In view of these findings, the practice of physical activity is highlighted as a possible alternative to prevent Burnout Syndrome in the male population, in addition to contributing to the quality of life and prevention of several other health problems.

Keywords: Burnout professional, Nurse practitioners, Exercise.

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# Introduction

The nursing professional is one of the pillars that make up Primary Health Care and presents shared and specific attributions that involve territorialization, comprehensive care, reception, home care, continued education, supervision, planning, among others [1]. However, the work performed by these professionals at the level of primary health care, permeates through obstacles such as lack of material resources and equipment, work overload and long working hours, lack of recognition and appreciation, precarious employment contracts, high demand and requirements in regard to productivity and goals, extensive territorial areas that are difficult to access and sometimes violent, among other factors that impact on the quality of services provided and the physical and mental exhaustion of these workers, such as the development of Burnout Syndrome (BS) [2,3].

According to the Ministry of Health, professions that are subject to daily contact with the public like the case of nurses can demand great emotional burden [4]. When performing professional activities, these workers are exposed to various psychosocial stressors which can be related both to the nature of the work and to the institutional and social context in which these activities are performed [5]. In this context, BS manifests itself as an emotional response to chronic stress in the workplace. The individual finds himself physically and mentally exhausted to execute his work activities, presenting himself with aspects of emotional exhaustion, depersonalization (insensitive and with dehumanized attitudes towards others) and with low perception of professional achievement [6-8], being one of the main causes of social security leave among nursing professionals [9]. It is worth noting that in 2019, the World Health Organization (WHO) included BS in the International Classification of Diseases (ICD-11), which lists diseases and health statistics that will be prevalent in the coming years, being defined as "a syndrome resulting from chronic workplace stress that has not been successfully managed" [10].

According to Vasconcelos and Martino [11] literature has revealed that BS is more common among nurses than in other health professionals due to the stressful situations that they experience at work and their direct contact with critical patients with different prognoses and varying degrees of suffering. In this same sense, Nobre et al. [12] identified, in the study entitled "Burnout Assessment in Nurses from a General Emergency Service" a high prevalence of BS in nursing professionals. Taking care of the health of these professionals is essential for their quality of life and for the satisfaction of users dependent on their care. Thus, the practice of physical activity can be an *Citation:* Gomes EVD, Damasceno KSM, Coelho NMF, et al. Burnout syndrome and physical activity in male nursing professionals of Primary Health Care in the state of Bahia, Brazil. Allied J Med res. 2021; 5(8):11-18.

important coping strategy to provide well-being and minimize the effects and the prevalence of BS [13].

Thus, the present study aims to measure the association between physical activity and BOS among male nursing professionals in primary health care in the state of Bahia.

The importance of this study is emphasized by the identification of strategies that can contribute to reduce the mental, emotional and physical problems of workers, providing them with a resignification of self-care, as well as establishing more cohesive relationship bonds with users and reducing absences and absenteeism. Moreover, the study brings a pioneering approach to this theme aimed at male nurses, who correspond to the lowest percentage among all nursing workers, thus, requiring studies that are inclusive in regard to their idiosyncrasies and characteristics, and in accordance with the guidelines contained in the National Comprehensive Healthcare Policy for Men.

# **Materials and Methods**

An epidemiological, cross-sectional analytical study was conducted with data obtained from a database of a previous study composed of Nursing Professionals from Health Units of Primary Health Care (PHC) in the state of Bahia/Brazil. The baseline study used cluster sampling and stratified by mesoregions, and a total of 10% of the municipalities of the state (clusters) of each mesoregion (stratum) were selected by means of a draw, totaling, at the end, 43 municipalities [14].

For the present study, data were collected from all male nursing professionals working in PHC from 30 municipalities in Bahia, which yielded a sample of 136 participants. The participants were allocated into 02 groups for comparison, based on practice of physical activity (Group A) or not (Group B). It is worth noting that in the baseline study the following professionals had been excluded: professionals who were on sick leave, had less than six months of experience in PHC, who exclusively performed administrative activities, with diagnosis of depression, anxiety and burnout before taking office, liver cirrhosis and alcohol and drug dependence.

The above-mentioned data were initially collected using a previously tested questionnaire, which included sociodemographic, work, lifestyle, human biology variables and the Maslach Burnout Inventory-Human Services Survey (MBI-HSS). In order to ensure homogeneity in the recording of information, this questionnaire was applied to 30 hospital professionals with the aim of achieving calibration among the research assistants, evaluating the agreement between them and a Kappa index of 0.87 which is considered acceptable was obtained [14,15].

The MBI-HSS, is an instrument validated by Maslach and Jackson [16] and translated into Portuguese by Benevides-Pereira [17], consists of 22 items whose answers are Likert with a scale of one to five points being: 1-never, 2-rarely, 3-sometimes, 4-frequently and 5-always, and which evaluate the following aspects: level of emotional exhaustion, depersonalization and professional underachievement. After summing up the scores obtained by BS dimensions, level classification followed in terms of high, medium and low levels and was done according to cutoff points proposed by Moreira and collaborators [18].

The interpretation of the MBI scale results was based on the criteria used by Ramirez and collaborators [19], in which BS is detected by high scores in the aspects of emotional exhaustion and depersonalization and low scores in relation to professional underachievement, in a dependent manner. It should be highlighted that the alpha coefficient of the MBI used to measure the reliability of the internal consistency type of a scale, was 0.91, which reveals an internal consistency classified as excellent.

Data analysis was performed using statistical package software STATA, version 11.0 to obtain the absolute and relative frequencies of all variables of interest, according to the practice or not of physical activity. For continuous variables, measures of central tendency were obtained, namely, mean and median, and standard deviation as a measure of dispersion.

Pearson's Chi-square or Fisher's Exact test were used in the bivariate analysis to evaluate possible associations between independent and dependent variables (BS). A stratified analysis was used to identify possible modifiers and confounders and at the end, a non-conditional logistic regression analysis was performed to verify the combined effect of the independent variables on the outcome. The Odds Ratios (OR) were obtained with respective Confidence Intervals (CI) of 95% and  $p \le 0.05$  values, obtaining a final model adjusted for the following variables: type of working contract, having children, race/ color, smoking, drinking, psychiatric treatment, work-related aggression and domestic work.

The initial study was approved by the Ethics and Research Committee of the State University of Bahia (UNEB), Brazil, approval number 872,365/2014. The criteria of Resolution 466/12 of the National Health Council governing research involving human beings and the guidelines of the Helsinki Declaration were followed.

## Results

The results revealed that, in general, the groups presented homogeneity in relation to the variables studied, since only statistically significant differences were observed for the variable age (p=0.007) and having children (p=0.004). Comparing the two groups regarding the practice of physical activity, active (group A) versus (vs.) inactive (group B), group A was predominated by younger individuals (73.24%), without a partner (68.18%) and without children (74.63%) vs. older individuals (49.23%), with partner (42.86%) and with children (49.28%) in group B, black race/color prevailed in both groups, as well as urban residence, satisfaction with marital status, level of education of technical or undergraduate level, lower household density, non-smokers and non-alcoholic beverage consumers, according to Table 1.

Regarding human biology characteristics, differences with statistical significance were observed between the groups compared for the following variables: satisfaction with physical form (p<0.001) and frequency of physical activity (p<0.001). In relation to comorbidities, the highest prevalence found was of non-hypertensive participants, 65.25% in Group A vs. 34.75% in Group B, and, non-diabetic participants, 62.88% in Group A vs. 37.12% in Group B (Table 2).

Practice of physical activity				OR	CI (95%)	<b>p</b> *			
Characteristics	Yes (n=8		No (n=51						
Age (in years)	n	%	n	%			$0.007^{*}$		
≤ 34	52	73.24	19	26.76		1.30-5.40			
>34	33	50.77	32	49.23	2.65				
Average±SD	$34.05 \pm 6$	5.60	$39.05 \pm 9$	.78					
Median	33		39						
Minimum-Maximum	24-58		23-63						
Race/skin color									
Not black	27	7 71.05	11	28.95	1.69	0.76-3.75	0.200		
Black	58	59.18	40	40.82	1.09	0.70-3.75	0.200		
Place of residence									
Rural area	22	56.41	17	43.59		0 22 1 49	0.252		
Urban area	63	64.95	34	35.05	0.70	0.33-1.48	0.352		
Marital status	· ·								
With a partner	40	57.14	30	42.86	0.62	0.21.1.25	0.104		
Without a partner	45	68.18	21	31.82	0.62	0.31-1.25	0.184		
Satisfaction with marital status		·							
Satisfied	70	61.95	43	38.05	a a <b>-</b>		0.768		
Unsatisfied	15	65.22	08	34.78		0.35-2.18			
Degree of education		I	I	1	1				
Technical/graduation level	70	61.40	44	38.60			0.548		
Specialization/Master's degree	15	68.18	7	31.82		0.52-3.47			
Family income <sup>1</sup>	I	I		1	1				
<3 minimum wages	31	58.49	22	41.51			0.440		
$\geq$ 3 minimum wages	54	65.06	29	34.94	1.32	0.65-2.67			
Household density (number of per	ople per hous				I				
$\leq 2$ people	59	64.13	33	35.87					
>2 people	26	59.09	18	40.91		0.59-2.57	0.570		
Children		0,10,1	10	1.0001	I		1		
With children	35	50.72	34	49.28					
Without children	50	74.63	17	25.37	2.86	1.39-5.87	$0.004^{*}$		
Smoking habit	00	,	1,	120107			1		
Yes	24	58.54	17	41.46					
No	61	64.21	34	35.79	1.27	0.60-2.67	0.530		
Alcohol consumption	01	04.21	34	33.19					
No	20	60.61	13	39.39					
Yes	65	60.61	38	39.39		0.40-1.99	0.796		
Yes Note: Source: Prepared by the aut									

**Table 1.** Socioeconomic-demographic characteristics and life habits according to the presence or absence of physical activity practice in male nursing professionals in the state of Bahia, Salvador, Bahia-Brazil, 2021 (n=136).

*Table 2.* Characteristics of human biology according to the presence or absence of physical activity practice in male nursing professionals in the state of Bahia, Salvador, Bahia-Brazil, 2021 (n=136).

Practice of physical activity					OR	CI (95%)	<b>p</b> *
Characteristics Yes (n= 85)		No (n= 51)	No (n= 51)				
	n	%	n	%			
Hypertension					2.35	0.88-6.24	0.089
Yes	08	44.44	10	55.56			
No	77	65.25	41	34.75			
Diabetes	·	·	·	·			·
Yes	02	50.00	02	50.00	1.70	0.29-9.93	0.600
No	83	6 62.88	49	37.12	1.70	0.29-9.93	0.600

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Psychiatric or ps	sychologica	l treatment					
Yes	24	64.86	13	35.14	0.97	0.40.1.00	0.728
No	61	61.62	38	38.38	0.87	0.40-1.90	
Burnout syndroi	ne	·	·	·	·		·
Yes	23	53.49	20	46.51	1.74	0.84-3.62	0.140
No	62	66.67	31	33.33	1.74	0.84-3.62	
Sleep pattern				·			
Satisfactory	42	61.76	26	38.24	0.94	0.47-1.88	0.859
Unsatisfactory	43	63.24	25	36.76	0.94	0.4/-1.88	
Body Mass Inde	x		·	·	·		·
<25kg/m <sup>2</sup>	30	68.18	14	31.82	1.44	0.68-3.05	0.344
$\geq 25 \text{kg/m}^2$	55	59.78	37	40.22	1.44	0.08-3.03	
Satisfaction with	h physical fo	orm					
Yes	62	78.48	17	21.52	5.40	2.55.11.40	< 0.001*
No	23	40.35	34	59.65		2.55-11.40	
Weekly frequen	cy of physic	cal activity	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
Up to 2 times	65	56.03	51	43.97		4.00	<0.001*
3 times or more	20	100.00	0	0.00	-	4.00-	< 0.001*
Note: *Statistica	l significant	ce value: $p \le 0.05$		· · ·	·	÷	

Similarly, individuals who had never needed psychiatric or psychological treatment predominated (61.62% in Group A vs. 38.38% in Group B), participants without burnout syndrome (66.67% in Group A vs. 33.33% in Group B), Body Mass Index (BMI) greater than or equal to  $25 \text{ kg/m}^2$  (59.78% in Group A vs. 40,22% in Group B), satisfied with physical form (78.48% in Group A vs. 21.52% in Group B) and with frequency of physical activity of up to twice a week (56.03% among those who were physically active). A homogeneity was observed regarding sleep pattern (Table 2).

Regarding work characteristics, there was a statistically significant difference between the variables: professional category (p<0.001), professional training time (p=0.001), current occupation time (p=0.041), time of occupation in PHC (p=0.009), rest break (p=0.026) and frequency of domestic activity (p=0.035). While still comparing the two groups in regard to the practice of physical activity, nursing technicians (78.13%) predominated in Group A, with professional training time of up to seven years (75.71%), current occupation time of up to four years (70.27%), current occupation in PHC of up to five years (72.60%), did not work outside PHC (64.18%), those satisfied with the economic situation (67.16%), who took rest breaks (69.88%) vs. nurses in Group B (Table 3).

Most participants showed that: they had already had a previous occupation (63.29%); previous occupation time of up to one year (65.38%); worked outside PHC (60.87%) with a workload outside PHC of up to 24 hours per week (61.54%); were satisfied with their current occupation (64.49%), 40 weekly working hours (62.60%); type of working contract,

contractual or effective (60.95%); with update of activities in PHC (66.04%), motivated to work in PHC for their vocation (60.71%), had already suffered aggression at work (66.32%), performed domestic activities (63.53%) whose frequency was mostly up to 3 days (68.04%) and considered having a good quality of life (69.49%) (Table 3).

Regarding the dimensions of BS, there was statistical significance only for the dimension of emotional exhaustion (p=0.002). The highest prevalences, between groups A and B, were found for the mean level of emotional exhaustion (78.69% vs. 21.31%), high level of depersonalization (63.44% vs. 36.56%) and high level of professional underachievement (63.55% vs. 36.45%), characterized (Table 4).

In the stratified analysis, no effect modifiers were identified. However, the variables, current occupancy time, time of occupation in PHC, having rest breaks and frequency of domestic activity showed potential for confounding. Consequently, they were tested in the multivariate analysis together with the classical confounders for association between physical activity and BS: professional category, having children, race/ color, smoking habit, drinking habit, quality of life, having a psychiatric treatment, subjected to work-related aggression, carrying out domestic activities.

When logistic regression was performed, a significant association was detected between physical activity and BS in the final model adjusted by type of employment contract, having children, race/color, smoking, drinking, psychiatric treatment, work-related aggression, carrying out domestic activities (OR=4.22 and p=0.037), according to Table 5.

Practice of physical activity	OR	CI (95%)	<b>p</b> *				
Characteristics	Yes (n=85)		No (n =51)				
	n	%	n	%			
Professional category	0.5			51.00		1	
Nurse	35	48.61	37	51.39		0.12-0.56	< 0.001*
Nursing technician	50	78.13	14	21.88			
Professional training time		1				1	
$\leq$ 7 years old	53	75.71	17	24.29	3.31	1.60-6.83	$0.001^{*}$
>7 years old	32	48.48	34	51.52		1.00 0.05	0.001
Previous occupation	1						
No	35	61.40	22	38.60	0.92	0.46-1.85	0.822
Yes	50	63.29	29	36.71	0.92	0.10 1.00	0.022
Working time in previous occupation							
$\leq 1$ year	51	65.38	27	34.62	1.33	0.66-2.67	0.420
> 1 year	3 34	58.62	24	41.38	1.55	0.00-2.07	0.420
Current occupancy time							
$\leq$ 4 years	52	70.27	22	29.73	2.07	1.03-4.19	0.041*
> 4 years	33	53.23	29	46.77	2.07	1.03-4.19	0.041*
PHC occupancy time					· ·	· · ·	
$\leq$ 5 years	53	72.60	20	27.40	2.57	1 26 5 21	0.000*
> 5 years	32	50.79	31	49.21	2.57	1.26-5.21	0.009*
Works outside PHC				1		1	
No	43	64.18	24	35.82	1.1.5	0.50.0.00	0.000
Yes	42	60.87	27	39.13	1.15	0.58-2.30	0.690
Number of hours worked outside PHC		10000	1- ,	10,000		I	I
< 24 hours	64	61.54	40	38.46			
>24 hours	21	65.63	11	34.38	0.84	0.37-1.90	0.676
Satisfaction with the current occupatio		100.00	11	5 1150			
Satisfied	69	64.49	38	35.51			
Unsatisfied	16	55.17	13	44.83	1.48	0.65-3.35	0.358
Weekly working day	10	55.17	15	14.05			
<40 hours	08	61.54	05	38.46			
=40 hours	77	62.6	46	37.40		0.30-2.95	0.940
Type of link	11	02.0	40	37.40	ļ		
Effective	64	60.95	41	39.05			
Outsourced/temporary	21	67.74	10	39.03		0.32-1.72	0.493
Satisfied with the economic situation	21	07.74	10	32.20			
	4.5	(7.1)	22	22.94			
Satisfied Unsatisfied	45	67.16 57.97	22 29	32.84 42.03	1.48	0.74-2.97	0.268
	40	57.97	29	42.03			
Has done upgrade course for PHC acti	1	66.04	26	22.06	1		
Yes	70	66.04	36	33.96	1.94	0.86-4.38	0.109
No	15	50.00	15	50.00			
What motivated you to work in PHC	<b>F</b> 1	<0 =1	22	20.20		I	
Vocation	51	60.71	33	39.29	0.82	0.40-1.67	0.585
Other reasons	34	65.38	18	34.62			
Takes rest break		10.00		0.0.1.5			
Yes	58	69.88	25	30.12	2.23	1.09-4.54	0.026*
No	27	50.94	26	49.06			
Subjected to work-related aggression						1	
No	663	66.32	32	33.68	1.70	0.81-3.57	0.162
Yes	22	53.66	19	46.34			
Carries out domestic activities		1		r			
No	31	60.78	20	39.22		0.44-1.80	0.749
Yes	54	63.53	31	36.47	0.07	0.111.00	0.717
Frequency of domestic ctivity							
Daily	19	48.72	20	51.28	2.24 1.05-4.75		0.035*
Up to 3 days a week	66	68.04	31	31.96	2.24	1.05-4.75	0.055
Quality of life							
Good	69	69.49	38	35.51	1 47	0 (5 2 25	0.250
Bad	16	55.17	13	44.83	1.47	0.65-3.35	0.358
Note: *Statistical significance value: p	< 0.05						

**Table 3.** Work characteristics and quality of life according to the presence or absence of physical activity in male nursing professionals in the state of Bahia, Salvador, Bahia-Brazil, 2021 (n=136).

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BS dimensions	Practice of physical activity							
	Yes (n=85)	)	No (n=51)					
Emotional exhaustion	N	%	N	%	<b>p</b> *			
High	26	50.98	25	49.02				
Medium	48	78.69	13	21.31	0.002*			
Low	11	45.83	13	54.17				
Depersonalization	·	·	· · ·	·	· · · ·			
High	59	63.44	34	36.56				
Medium	17	60.71	11	39.29	0.945			

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10

02

Table 4. Dimensions of Burnout Syndrome by level according to presence or absence of physical activity in male nursing professionals in the state

**Note:** Source: Prepared by the authors. \*Statistical significance value:  $p \le 0.05$ . \*Statistical significance level:  $p \le 0.05$ Table 5. Odds Ratio (OR) and Confidence Interval (95% CI) obtained through non-conditional logistic regression for the association between

60.00

63.55

62.96

-				
Models	OR	CI 95%	<b>p</b> *	
Gross (n=136)	2.02	(0.63–6.47)	0.233	
Adjusted1 (n=136)	4.22	(1.09–16.39)	0.037*	
	Gross (n=136)	Gross (n=136) 2.02	Gross (n=136) 2.02 (0.63–6.47)	Gross (n=136) 2.02 (0.63–6.47) 0.233

Note: Source: Prepared by the authors. 1Adjusted for: type of bond, children, race/color, smoking, drinkin, psychiatric treatment, submission to work-related aggressio, performing domestic activities. \*Statistical significance value:  $p \le 0.05$ 

# Discussion

Low

High

Low

Medium

Professional underachievement

For cultural reasons, men seek health services less when compared to women, becoming more vulnerable to physical and mental illness. The National Comprehensive Healthcare Policy for Men contributes to filling gaps and expanding the lines of care directed to this population, in order to alleviate the health problems that they are exposed [20].

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17

physical activity practice and Burnout Syndrome. Salvador, Bahia, Brazil 2021 (n=136).

There is scarcity of studies in the literature on BS involving male nursing professionals who represent a minority within the nursing profession. The present study revealed a high prevalence of BS among male nursing professionals, corresponding to 31.61%, which was reported as well in the study by Lima, Farah and Bustamante-Teixeira [21] who found a prevalence of BS of 44.4% according to the criteria of Grunfeld et al. [22], in which BS is identified by the alteration in any of its dimensions.

In studies involving nursing professionals of both sexes in PHC, using these same criteria, Campos et al. [23] found a prevalence of 43.24% in workers from a medium-sized municipality in the interior of Minas Gerais, Brazil. Whereas Merces et al. [24] identified a prevalence of 58.3% of BS in a municipality in the state of Bahia, Brazil. However, in this same study, using the criteria established by Ramirez et al. [19], the prevalence of BS decreased to 16.7%.

There is a diversity of BS evaluation criteria, which justifies the variations in the prevalence found. In the present study, the criterion of Ramirez et al. [19] was used and is widely disseminated and used nationally and internationally because it does not overestimate BS. The criterion identifies BS from high scores in relation to the dimensions of emotional exhaustion and depersonalization and low score in the dimension of professional underachievement.

Among the dimensions of BS, emotional exhaustion presented a high prevalence among participants, with 37.5% corresponding to the high level and 44.8% to the average level, presenting statistical significance in the bivariate analysis with the practice of physical activity (p=0.002). For the other dimensions, the high category had a prevalence of 68.4% for depersonalization and 78.7% for professional underachievement, however, without statistical significance in the bivariate analysis with the practice of physical activity.

40.00

36.45

37.04

100.00

0.242

In the studies of Campos et al. [23] and Merces et al. [24], for comparative purposes, the prevalence found for high emotional exhaustion, high depersonalization and high level of professional underachievement were, 18.3%, 48.3%, 56.6% and 24.32%, 24.32% and 16.21%, respectively. When compared to the present study, these prevalence rates were low.

Emotional exhaustion corresponds to physical, mental and low energy for the continuity of activities, and is characterized by feelings of intolerance, nervousness, depression, worry and symptoms such as muscle pain, headache, nausea, among others. As for depersonalization, it is characterized by strained affective relationships. On the other hand, professional underachievement would be low professional self-esteem [7,8,25].

This chronic scenario causes damage not only to the worker, but to the company and the State due to social security leave, absenteeism, low productivity and profitability, and to the society, that suffer from the decrease in the supply and quality of services [7,9,25], requiring coping strategies, such as practice of physical activities, that minimize such damage and restore the health and quality of life of nursing professionals [13].

In this perspective, analyzing the crude model of association of BS and the practice of physical activity, although a chance 2.02

times greater of BS was found in individuals who were physically inactive, there was no statistical significance (p=0.233). However, when adjustments were made in multivariate logistic regression, the BOS odds ratio became 4.22 among the less active physically and statistically significant (p=0.037).

In the study conducted by Olson et al. [26] in medical residents, the association between compliance with physical activity guidelines (150 minutes per week of moderate activities or 75 minutes per week of vigorous activities) and the development of Burnout Syndrome presented an OR 0.38, 95% CI 0.147-0.99. That is, residents who complied with physical activity guidelines were less likely to develop BS.

Freitas et al. [27] evaluated through an almost experimental study design, the effects of a Workplace Physical Activity Program (WPAP) in a palliative care nursing team in regard to BS, anxiety, occupational stress, depression and self-perception of quality of life. Regarding the dimensions of BS, it was observed that there was no statistically significant difference in the pre- and post-intervention experiment, just like the present study.

Gerber et al. [28] also observed through a pilot study the effects of a 12 week aerobic exercise program in men identified with professional exhaustion. The dimensions emotional exhaustion and depersonalization showed significant reductions, with Cohen's "d" indices of 1.84 and 1.35, respectively, representing a magnitude of large effect size. Participants also had a significant reduction in depression symptoms, with cohen's "d" index of 1.76, concluding that the practice of physical activities can be simple and of low-cost alternatives for Burnout Syndrome when compared to pharmacological or psychotherapeutic treatments.

Burnout dimensions were also analyzed through a randomized clinical trial proposed by Bretland and Thorsteinsson [29] in which a statistically significant reduction in emotional exhaustion was observed (t-test 3.23, p<0.01 and large effect size, partial  $\eta^2$ =0.59) and professional achievement (t=-3.29, p<0,01 and large effect size  $\eta^2$ =0.40) in the group subjected to physical activities over weeks, while in the control group, there were no statistically significant results.

Just like the aforementioned studies, the studies by Das and Adams [30], which examined the relationship between levels of physical activity and physical, mental and occupational health among nurses, identified that active nurses had less fatigue, lower levels of stress, better mental health and lower levels of burnout when compared to inactive nurses. Similarly, they observed improvement in overall quality of life and exhaustion even in individuals who performed mild intensity physical activity, demonstrating that performing any physical activity is better than not doing any.

#### Conclusion

An independent association between Burnout Syndrome and low physical activity was verified in the present sample. A high prevalence of Burnout Syndrome was observed and its dimensions: emotional exhaustion, depersonalization and professional underachievement among male nursing professionals. In view of these findings, the practice of physical activity is a possible alternative to prevent burnout syndrome in the male population, besides contributing to the quality of life and prevention of several other health problems. Therefore, it is presented as a potential strategy to be encouraged in the workplaces, such as primary health care. Moreover, it is necessary to adopt measures to control stress levels at the workplace, including the early detection of stress factors and the search for collective strategies to cope with this situation, contributing to the quality of life of these professionals.

Although only a relatively small sample was analyzed in the present investigation, it is expected that its results can make up the body of evidence on the theme at hand, especially considering that studies that contemplate the association between BS and the practice of physical exercises are still scarce. Thus, the authors suggest further research in this line of investigation be developed in order to contribute to the state of the art and to provide opportunities for the adoption of evidence-based coping measures, with a view to enhancing the well-being and integral health of the male population.

#### References

- Brasil. Ministério da Saúde. Política Nacional da Atenção Básica. Brasília: Ministério da Saúde; 2012.
- 2. Trindade LL, Lautert L. Síndrome de Burnout entre os trabalhadores. Rev Esc Enferm USP. 2010; 44 (2): 274–279.
- 3. Ferreira SRS, Périco LAD, Dias VRFG, et al. The complexity of the work of nurses in Primary Health Care. Rev Bras Enferm 2018; 71 (suppl 1): 704–709.
- Brasil. Ministério da Saúde. Humaniza SUS: Política Nacional de Humanização: Documento base para gestores e trabalhadores do SUS. Brasília: Ministério da Saúde; 2004.
- Franco GP, Barros ALBL de, Nogueira-Martins LA, et al. Burnout em residentes de enfermagem. Rev Da Esc Enferm Da USP 2011; 45 (1): 12–18.
- Jardim SR, Vieira I. Burnout e reações de estresse. In: Glina DMR, Rocha LE. Saúde mental no trabalho: da teoria à prática. São Paulo: Roca; 2016. p. 403-415.
- Trigo TR. Síndrome de Burnout ou Esgotamento Profissional: como identificar e avaliar. In: Glina DMR, Rocha LE. Saúde mental no trabalho: da teoria à prática. São Paulo: Roca; 2016. p. 160–75.
- 8. França ACL, Rodrigues AL. Stress e Trabalho: uma abordagem psicossomática. 4 ed. São Paulo: Atlas; 2019.
- Polonio M, Padula MPC. Causas de afastamento previdenciário por transtornos mentais nos trabalhadores de Enfermagem: Pesquisa bibliográfica. Brazilian J Heal Rev 2020; 3 (5): 11938–57.
- Monteiro L. OMS classifica a síndrome de burnout como doença. Super Interess 2019 maio. Disponível em.16 Mai 2021.
- Vasconcelos EM de, Martino MMF de. Predictors of burnout syndrome in intensive care nurses. Rev Gaúcha Enferm 2018; 38 (4): e65354.

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- Nobre DFR, Rabiais ICM, Ribeiro PCPSV, et al. Burnout assessment in nurses from a general emergency service. Rev Bras Enferm 2019 nov/dez; 72 (6): 1457–1463.
- Sousa JNM, Maia JBD, Figueiredo LS et al. O exercício físico como estratégia de coping frente à síndrome de burnout: uma revisão sistemática. Rev Espac 2020; 41 (22): 33–42.
- 14. Merces MC das, Coelho JMF, Lua I et al. Burnout syndrome and metabolic syndrome: a cross-sectional population-based study. Arch Environ Occup Heal 2020;1–9.
- Seigel DG, Podgo MJ, Remaley NA, et al. Acceptable Values of Kappa for Comparison of Two Groups. Am J Epidemiol 1992;135 (5): 571–578.
- 16. Maslach C, Jackson SE. The measurement of experienced burnout. J Occup Behav 1981; 2: 99–113.
- Benevides-Pereira AMT. Burnout: O processo de adoecer pelo trabalho. In: Benevides-Pereira, AMT. Burnout: quando o trabalho ameaça o bem-estar do trabalhador. 4ª ed. São Paulo: Casa do Psicólogo; 2010. p. 21-91.
- Moreira DS, Magnago RF, Sakae TM, et al.Prevalência da síndrome de burnout em trabalhadores de enfermagem de um hospital de grande porte da Região Sul do Brasil. Cad Saude Publica 2009; 25 (7): 1559–1568.
- Ramirez AJ, Graham J, Richards MA, et al. Mental health of hospital consultants: The effect of stress and satisfaction at work. Eur Psychiatry 1996; 16 (347): 724–728.
- Brasil. Ministério da Saúde. Política Nacional de Atenção Integral à Saúde do Homem: princípios e diretrizes. Brasília: Ministério da Saúde; 2009.
- Lima AS, Farah BF, Bustamante-Teixeira MT, et al. Análise Da Prevalência Da Síndrome De Burnout Em Profissionais Da Atenção Primária Em Saúde. Trab Educ e Saúde 2018; 16(1): 283–304.
- 22. Grunfeld E, Whelan TJ, Zitzelsberger L, et al. Cancer care workers in Ontario: prevalence of burnout, job stress and job satisfaction. CMAJ 2000;163 (2):166–169.

- Campos ICM, Angélico AP, de Oliveira MS, et al. Fatores sociodemográficos e ocupacionais associados à síndrome de burnout em profissionais de enfermagem. Psicol Reflex e Crit 2015; 28 (4): 764–771.
- 24. Merces MC das, Lopes RA, Silva D de S e, et al. Prevalência da Síndrome de Burnout em profissionais de enfermagem da atenção básica à saúde. Rev Pesqui Cuid é Fundam Online 2017; 9(1): 208–214.
- Organização Mundial da Saúde. Primary prevention of mental, neurological and psychosocial disorders. WHO 1998: 91–110.
- Olson SM, Odo NU, Duran AM, et al. Burnout and Physical Activity in Minnesota Internal Medicine Resident Physicians. J Grad Med Educ 2014: 6 (4): 669–674.
- Freitas AR, Carneseca EC, Paiva CE et al., Impact of a physical activity program on the anxiety, depression, occupational stress and burnout syndrome of nursing professionals. Rev Lat Am Enfermagem 2014; 22(2): 332–336.
- 28. Gerber M, Brand S, Elliot C, et al. Aerobic exercise training and burnout: a pilot study with male participants suffering from burnout. BMC Res Notes 2013; 6 (1):1–9.
- 29. Bretland RJ, Thorsteinsson EB. Reducing workplace burnout: the relative benefits of cardiovascular and resistance exercise. Peer J 2015; 3: e891.
- Das BM, Adams BC. Nurses' physical activity exploratory study: Caring for you so you can care for others. Work 2021; 68: 461–471.

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