



Self-rated health status and lifestyle factors: A cross-sectional study of human and natural science educators

Pâmela Vieira Monteiro¹, Gabriela Silvério das Neves¹, Geise Ferreira da Cruz¹, Monica Cattafesta², Roberta Luksevicius Rica³, Almir de França Ferraz³, Aylton Figueira Junior³, Michell Vetoraci Viana³, Guilherme Lemos Shimojo⁴, Luciane Bresciani Salaroli²

ABSTRACT:

Background: Self-rated health status is a subjective indicator that is based on the body's perception of health status, covering personal components such as, physical aspects, aspects of general well-being and satisfaction with life. **Objective:** To analyze the self-rated health status and factors associated with the lifestyle of higher education educators. **Material and methods:** This is an observational study, consisting of 85 faculty members in the area of Human and Natural Sciences of a university. For the analysis of the sample, chi-square test and Fisher's exact test were used. **Results:** 24.7% (n = 21) self-rated their health as regular/poor. (P = 0.022), the Waist/Stature ratio (p = 0.014), the level of physical activity (p = 0.050), the time in administrative positions (p = 0.026) and stress-related symptoms (p = 0.043). **Conclusion:** The time in administrative position and the large number of symptoms related to stress, high PW, inadequate W/S ratio and low level of physical activity were associated with negative self-rated health, recommending strategies for promotional health and prevention of stress-related diseases.

KEYWORDS: Self-rated Health; Lifestyle; Physical Activity; Work's Health.

BACKGROUND

Self-rated health status is a subjective indicator that is based on the body's perception of health status, covering personal components such as, physical aspects, aspects of general well-being and satisfaction with life^(1,2,3). The use of this indicator is increasingly frequent in epidemiological studies, since it is easy to apply individually or to populations. Additionally, previous studies reported that self-rated health is a good tool as a predictor of morbidity among population subgroups, to compare healthy service and mortality^(3,4). Since negative self-rating induces the demand for health services⁽²⁾, the World Health Organization (WHO) recommends the use of this indicator as it makes it possible to evaluate the effectiveness of public policies, actions and health services, and can be incorporated into the health surveillance system due to its easy accessibility⁽⁵⁾. Although widely used in population-based studies as well as general population^(2,6,7) or groups of specific workers^(8,9). Studies on health self-rating in higher education educators is still scarce considering the importance of these professionals in the educational sphere and society. Currently, the teaching profession is considered one of the leading causes of stress and occupational diseases⁽¹⁰⁾. Given that higher education educators often face a grueling

routine, the accumulation of functions, the demand for scientific production, the lack of infrastructure and university investment, and the constant demand for updates that tend to have an unfavorable impact on health and performance⁽¹¹⁾. Taking in consideration that high stress level is associated with negative self-rating. Here, we assess self-rated health status and factors associated with the lifestyle of higher education educators in the areas of Human and Natural Sciences.

MATERIAL AND METHODS

It is an observational, transversal and descriptive investigation. The sample is non-probabilistic, for convenience, being made up of effective professors of the Human Sciences (Psychology, Letters, History, Social Sciences, Geography and Philosophy) and Natural Sciences (Biology and Oceanography) of a public university of both sexes, in a regime of exclusive dedication and in full working activity. Educators in probationary stage, pregnant, lactating, under license, who did not complete the questionnaire and did not respond to the invitation were excluded from the survey. Data collection occurred from September to December 2016 and from March to June 2017. All the educators were invited to

Corresponding author: Luciane Bresciani Salaroli. Address: Universidade Federal do Espírito Santo. Departamento de Educação em Saúde (DEIS). Av. Marechal Campos, 1468, DEIS - Maruípe, Vitória (ES), Brazil – CEP: 29040-090. E-mail: lucianebresciani@gmail.com

² Programa de Pós-Graduação em Saúde Coletiva da Universidade Federal do Espírito Santo (UFES), Vitória (ES), Brasil

Full list of author information is available at the end of the article.

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participate, through the coordination meetings of each course, in which they were informed about the research. Subsequently, individual schedules were arranged via telephone contact, in person or by e-mail, to conduct the interview. The study was approved by the Committee of Ethics in Research with Human Beings of the Health Sciences Center of the Federal University of Espírito Santo under the CAAE: 56159316.5.0000.5060. All the participants signed the Informed Consent Term. The independent variables used were socioeconomic and demographic data, anthropometric, hemodynamic, behavioral, work characteristics and health conditions (Figure 1).

The socioeconomic and demographic data were age, sex, marital status and economic class. The age range was categorized as “up to 40 years”, “between 41 and 50 years” and “over 50 years”, marital status “living marital” and “not living marital” and socioeconomic data classified according to Criteria of Economic Classification Brazil⁽¹²⁾. The anthropometric, hemodynamic and behavioral variables were used in the study, the Body Mass Index (BMI) given by weight (kg) / height (m²), the adequacy of weight (%) given by actual weight x 100/ideal weight, the Waist Perimeter (WP), Waist/Stature (W/S), Arterial Blood Pressure (AP), alcohol, smoking and physical activity levels. BMI ranged from low weight / eutrophy (BMI <24.99 kg / m²) and overweight / obesity (BMI > 25 kg / m²)⁽⁵⁾. Weight adequacy was obtained using the formula (actual weight x 100 / ideal weight) and regrouped in “adequate”

(<110%) and “not adequate” (> 110.1%)⁽¹³⁾. For analysis of the WP, an inextensible metric tape was used positioned at the mid horizontal point between the lower margin of the last costal arch and the iliac crest. Categorized as adequate and inadequate, considering inadequate CP ≥ 94cm for men and ≥80cm for women⁽¹⁴⁾. The variable S/W ratio was grouped into adequate and inadequate, using a cut-off point > 0.5 for inadequate, adopted by the Brazilian Obesity guideline 2016⁽¹⁴⁾. Subjects with high BP were considered those who used antihypertensive drugs and / or who had the mean blood pressure measured during the interview, and for systolic blood pressure (SBP) greater than 140-159mmHg and diastolic blood pressure (DBP) 90- 99 mmHg⁽¹⁵⁾. Considered who consumed alcohol regardless of frequency or quantity and smokers who used tobacco / tobacco regardless of quantity or frequency. Being the variables regrouped in “consume”, “never / already consumed in the past”.

The reduced version of the International Physical Activity Questionnaire (IPAQ), validated for the Brazilian population, was used to evaluate the level of physical activity⁽¹⁶⁾, being considered sufficiently active individuals, those who reported at least 150 minutes of activities with frequency ≥ 5 days in the week⁽¹⁷⁾, considering the sum of the sessions related to leisure and transportation, in order to avoid overestimation of the level of physical activity⁽¹⁸⁾. To characterize the works environment, we used questions such as: resides in the city

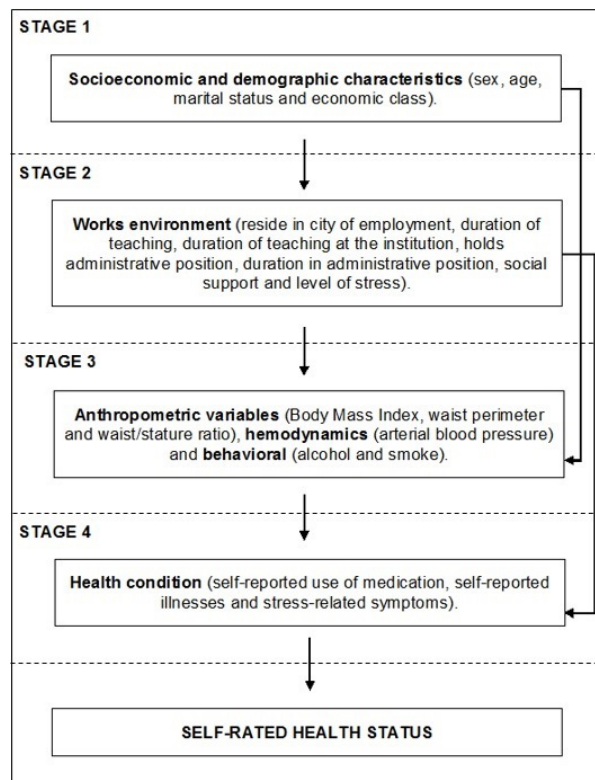


Figure 1. Theoric model.



they work, teaching time, teaching time in the institution, holds administrative position, administrative office time, social support and stress level⁽¹⁹⁾. The variable time as a educator was categorized into “up to 20 years” and “over 20 years” and time as a educator in the institution categorized as “up to 10 years” and “over 10 years”. The variable of administrative position was categorized as “yes, exercises” and “no, does not exercise” and the time in the administrative position was grouped in “up to 1 year” and “over 1 year”. In order to determine the level of occupational stress, the reduced and adapted version for Brazil of the Job Stress Scale, evaluated by the demand and control model and regrouped in “not stressed” and “stressed” was used. In order to evaluate social support, it was regrouped in “low social support” and “high social support” according to the reduced and adapted version of Job Stress Scale⁽¹⁹⁾.

To characterize the health condition, the following variables were selected: self-reported use of drugs categorized as “yes” or “no”, amount of self-reported drugs, self-reported illnesses and stress-related symptoms. The amount of medication was grouped “between 0 and 2 and “more than 2 diseases.” Concerning stress symptoms, they were grouped into “up to 5 symptoms” and “more than 5 symptoms”. The dependent variable of interest is “self-rating health status”. The educator was asked: “In general, how would he classify his state of health in relation to other individuals of the same age”, with the option of “very good”, “good”, “regular” and “bad”. Later grouped in “very good / good” and “regular / bad”, to make the analysis more representative. The data was analyzed in the SPSS® program, version 22, and the chi-square test (X^2) and Fisher’s exact test were used for the categorized analysis, adopting a significance level of 5%.

RESULTS

Among the 217 permanent active educators, 12.90% (n = 28) were excluded because they were not in work activity of their functions. Thus, 189 active educators in the function, 44.9% (n = 85) accepted to participate in the research meeting the inclusion criteria. Among the 44.9% (n = 85) educators, 50.6% (n = 43) were males; the predominant age group was “over 50 years” representing 45.9% (n = 39) of the sample; 58.8% (n = 50) were married and 70.6% (n = 60) were classified in economy class A1/A2. Regarding the self-rated health status, 24.7% (n = 21) self-rated their health as regular/poor. None of the socioeconomic and demographic variables (Table 1) were associated with self-rated health status.

In relation to the anthropometric, behavioral and lifestyle variables, the values of the CP (p=0.022), the C/E ratio (p=0.014) and the physical activity level (p = 0.050). These were associated with negative (regular/poor) self-rated health status in educators considered inadequate and/or insufficient. The highest percentage was present in the individuals classified with the inadequate C/E ratio (Table 2). About 68.2% (n = 58) of the evaluated educators were overweight, although there was no statistical difference.

From the characteristics of the work presented in Table 3, there was identified an association with the self-rated health status, only the time in administrative positions (p = 0.026), being prevalent the regular / bad self-evaluation of those who exercised administrative position up to 1 year.

When analyzing the variables related to the health condition of the educators (Table 4), there was a significant correlation between the stress-related symptoms (p = 0.043) and negative self-rated health status, being higher in educators who presented five or more symptoms.

Table 1. Self-rated health status according to socioeconomic and demographic characteristics [[Q1: Q1]].

Parameters	Very good/good		Regular/bad		Significance	Total	
	N	%	n	%		n	%
<i>Sex*</i>							
Female	29	45.3	13	61.9	0.216	42	49.4
Male	35	54.7	8	38.1		43	50.6
<i>Age</i>							
Up to 40 years	16	25.0	5	23.8	0.579	21	24.7
Between 41 and 50 years	17	26.6	8	38.1		25	29.4
More than 50 years	31	48.4	8	38.1		39	45.9
<i>Marital status*</i>							
Married	38	59.4	12	57.1	0.999	50	58.8
Single	26	40.6	9	42.9		35	41.2
<i>Economic class*</i>							
A1/A2	44	68.8	16	76.2	0.591	60	70.6
B1/B2	20	31.3	5	23.8		25	29.4

Note: Chi-square test. * Fischer test. N = 85

**Table 2.** Self-rated health status and lifestyle according to anthropometric and behavioral variables.

	Very good/good		Regular/bad		Significance	Total	
	n	%	N	%		n	%
<i>Body mass index</i>							
Low weight / eutrophic	24	37.5	3	14.3	0.060	27	31.8
Overweight / Obesity	40	62.5	18	85.7		58	68.2
<i>Arterial blood pressure*</i>							
Normal	49	76.6	13	61.9	0.257	62	72.9
High	15	23.4	8	38.1		23	27.1
<i>Adequacy of body weight*</i>							
Suitable	34	53.1	7	33.3	0.137	41	48.2
Not suitable	30	46.9	14	66.7		44	51.8
<i>Waist perimeter*</i>							
Suitable	31	48.4	4	19.0	0.022	35	41.2
Not suitable	33	51.6	17	81.0		50	58.8
<i>Waist perimeter/height ratio*</i>							
Suitable	25	39.1	2	9.5	0.014	27	31.8
Not suitable	39	60.9	19	90.5		58	68.2
<i>Alcohol</i>							
Consume	52	81.3	16	76.2	0.754	68	80.0
Never/Stopped	12	18.8	5	23.8		17	20.0
<i>Smoke</i>							
Consume	6	9.4	5	23.8	0.130	11	12.9
Never/Stopped	58	90.6	16	76.2		74	87.1
<i>Level of physical activity*</i>							
Active	51	79.7	12	57.1	0.050	63	74.1
Inactive	13	20.3	9	42.9		22	25.9

Note: * Fisher's exact test. N = 85

Table 3. Self-rated health status, according to characteristics of the work.

Parameters	Very good/good		Regular/bad		Significance	Total	
	N	%	n	%		N	%
<i>Reside in city of employment</i>							
Yes	44	68.8	13	61.9	0.599	57	67.1
No	20	31.3	8	38.1		28	32.9
<i>Duration of teaching at the institution</i>							
Up to 10 years	28	43.8	12	57.1	0.322	40	47.1
More than 11 years	36	56.3	9	42.9		45	52.9
<i>Duration of teaching</i>							
Up to 20 years	37	57.8	10	47.6	0.456	47	55.3
More than 20 years	27	42.2	11	52.4		38	44.7
<i>Holds administrative position</i>							
Yes	31	48.4	10	47.6	0.999	41	48.2
No	33	51.6	11	52.4		44	51.8
<i>Duration in administrative position</i>							
Up to 1 year	11	35.5	8	80.0	0.026	19	22.4
More than 1 year	20	64.5	2	20.0		22	25.9
<i>Social support</i>							
Low social support	30	46.9	9	42.9	0.805	39	45.9
High social support	34	53.1	12	57.1		46	54.1
<i>Level of stress*</i>							
Low	37	58.7	17	81.0	0.073	54	63.5
High	26	41.3	4	19.0		30	35.3

Note: Fisher's exact test. N = 85. * N = 84.

**Table 4.** Self-rated health status, according to variables of health condition.

Parameters	Very good/good		Regular/bad		Significance	Total	
	N	%	n	%		n	%
<i>Use of medication*</i>							
Yes	35	54.7	10	47.6	0.621	45	52.9
No	29	45.3	11	52.4		40	47.1
<i>Quantity of medicines***</i>							
Between 0 and 2 medications	62	96.9	20	95.2	0.999	82	96.5
More than 2 medications	2	3.1	1	4.8		3	3.5
<i>Self-reported illnesses^{1,*}</i>							
Up to 2 diseases	30	46.9	5	23.8	0.077	35	41.2
More than 2 diseases	34	53.1	16	76.2		50	58.8
<i>Stress-related symptoms^{2,*}</i>							
Up to 5 symptoms	36	56.3	6	28.6	0.043	42	49.4
More than 5 symptoms	28	43.8	15	71.4		43	50.6

Note: Self-reported diseases¹: High cholesterol. Diabetes, depression, chest pain, asthma, emphysema, chronic bronchitis, stroke, stomach ulcer or duodenum, gastritis, disc herniation, repetitive stress injury, arthrosis, infarction, Alzheimer's, Parkinson's, kidney disease, cancer, hepatitis, others. Symptoms associated with stress²: Insomnia, stress, nervousness, irritability, dizziness, headache, nausea, vomiting, feeling tired, malaise, intense itching, spotting on the skin, red and irritated eyes. Lack of appetite, joint pain, sneezing, difficulty breathing, mental confusion, muscle pain excessive sweating. Chi-square test. * Fisher's exact test. N = 85. ** N = 84

DISCUSSION

The perception of health is an individual view. WHO defines health status as "a state of complete physical, mental, and social well-being and not just the absence of disease" (20). In this way, social and cultural characteristics may be related to the self-rated response of health status and not only physical health status (21). Previous studies carried out with upper-level educators reported that inactive individuals with lower job satisfaction had higher stress scores (22). Petarli et al. (23) concluded that the factors that negatively influenced the self-rated health status of bank workers were controllable and orientated, and organizational strategies were needed to improve health and work conditions.

In the present study, the variables related to socioeconomic and demographic data did not show an association with the self-rated health status of the educators. These results are similar to those previously reported with bank workers, but in both studies it was possible to observe that women had a higher negative self-rated health status, even if the gender variance was not significant (23). According to the WHO, individuals with a waist circumference higher than the cutoff (man: >94 cm and woman: >80 cm) point are at increased risk of developing cardiovascular disease (17). Increased abdominal fat is also associated with metabolic syndrome, systemic arterial hypertension, diabetes mellitus and dyslipidemia, consequently increasing the risk of morbidity and mortality (24,25). Thus, the fact that they have elevated CP

and/or inadequate C/E ratio may have contributed to negative self-rated health status.

Level of physical activity is associated with self-rated health status (7,23). In this sense Theme Filha et al. (3), presented that physical inactivity is a key factor when associated with other factors such as increased consumption of unhealthy foods and tobacco use, to increasing of Chronic Non-communicable Diseases (CND). On the other hand, physically active individuals may present a lower risk of developing CND (26), since the practice of physical activity is related to a better quality of life, body weight maintenance and being used as one of the prevention methods of obesity (14).

Stress can come from internal sources related to individual and/or external reaction and interpretation related to the demands of daily life due to occupation, family reasons, among others (27). The high level of stress in the workplace caused mainly by psychological and physical demands are responsible for the constant wear and tear of the professionals (28), and the shorter time spent in an administrative position may have contributed to a negative association of the self-rated health status of the educators. Stress responses can be divided into stages of alertness, defense or resistance and exhaustion (27), and it is possible that symptoms may arise as a consequence of a work environment with excessive stress (28). Although the study did not present any significance between educators considered to be stressed and not stressed, the fact that they



presented 5 or more symptoms related to stress was associated with a negative self-rated health status.

The limitations of this study were the strike period occurred in the year 2016 in the institution, the changes occurred in the schedules and academic calendar post-strike, the number of participating educators and the sample by convenience. The advantages are the pre-scheduling of the collections that allowed us the infrastructure of the rooms used for evaluations, the time granted by each educator and voluntary participation. Despite the limitation in the number of participating educators, it was possible to carry out all the planned steps, contributing to the elaboration of this work.

CONCLUSION

The time in administrative position and the great number of symptoms related to stress were associated to the negative self-rated health of the educators, due to the accumulation of stress related to the accumulation of work and requirements of the teaching position. Thus, recommending for this group strategies for health promotion and prevention of stress-related diseases. In addition, high waist circumference, inadequate Waist/Stature ratio and low level of physical activity were associated with negative self-rated health, demonstrating that inadequate nutritional status and sedentary lifestyle may have a negative impact on the perception of health. However, these factors can be controlled through clinical nutritional monitoring and physical activity practice, seeking to reduce abdominal fat, through public policies for this group, and can be extended to the other working classes if this is the case.

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AUTHOR'S CONTRIBUTION

Each author contributed individually and significantly to the design of this manuscript. RLR, JMQM and DSB were the main contributors to the intellectual conception of the study; RLR, JHG, WAB and CMS participated in data collection and analysis and writing development; RLR, FLPJ and GAJ are involved in reviewing the results and writing the manuscript; RLR, AFM and DSB participated in the critical review of the manuscript.

CONFLICT OF INTEREST

The author(s) declare that they have no competing interests.

AUTHORS DETAILS

¹ Departamento de Educação Integrada em Saúde (DEIS) da Universidade Federal do Espírito Santo (UFES), Vitória (ES), Brasil

³ Departamento de Pós-Graduação em Educação Física da Universidade São Judas Tadeu (USJT), São Paulo (SP), Brasil

⁴ Departamento de Fisiologia - Universidade Federal de São Paulo (UNIFESP), São Paulo (SP), Brasil