CARDIOVASCULAR RISK FACTORS AND QUALITY OF LIFE IN UNIVERSITY STUDENTS

FATORES DE RISCO CARDIOVASCULARES E QUALIDADE DE VIDA EM UNIVERSITÁRIOS FACTORES DE RIESGO CARDIOVASCULARES Y CALIDAD DE VIDA EN UNIVERSITARIOS

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ABSTRACT

Objective: to evaluate the association of risk factors for cardiovascular diseases and quality of life among working university students. **Method:** this is a quantitative, transversal and analytical study with 40 students. Data were analyzed in SPSS 21. **Results:** 55% of the sample had poor sleep quality and 15% had sleep disturbance. Regarding the level of physical activity, 65% of those who work were classified as sedentary. Regarding the "pain" domains, a statistically significant difference ($p = 0.01$) was observed, indicating that the working university students presented more pain. **Conclusion:** Even in a population of young adults, the vulnerability to the development of CVD was observed, and the level of sleep quality and sedentary lifestyle observed among the working university students, which may compromise health and quality of life of this population. **Descriptors:** Cardiovascular Diseases; Students; Risk Factors; Quality of Life; Chronic Disease; Sex.

RESUMO

Objetivo: avaliar a associação dos fatores de risco para as doenças cardiovasculares e qualidade de vida em universitários que trabalham. **Método:** trata-se de um estudo quantitativo, transversal e analítico, com 40 discentes. Analisaram-se os dados no SPSS 21. **Resultados:** 55% da amostra possuem qualidade de sono ruim e que 15% distúrbio do sono. Quanto ao nível de atividade física, 65% dos que trabalham foram classificados com sedentários. Com relação aos domínios de "dor", foi observada uma diferença estatisticamente significativa ($p = 0,01$) apontando que os universitários que trabalham apresentam mais dor. **Conclusão:** mesmo em uma população de adultos jovens, observou-se o estado de vulnerabilidade para o desenvolvimento de DCV, sendo preocupantes, entre os universitários que trabalham, o nível da qualidade de sono e o sedentarismo observados, que podem comprometer a saúde e a qualidade de vida dessa população. **Descritores:** Doenças Cardiovasculares; Estudantes; Fatores de Risco; Qualidade de vida; Doença Crônica; Sexo,

RESUMEN

Objetivo: evaluar la asociación de los factores de riesgo para las enfermedades cardiovasculares y la calidad de vida en los universitarios que trabajan. **Método:** se trata de un estudio cuantitativo, transversal y analítico, con 40 discentes. Se analizaron los datos en el SPSS 21. **Resultados:** el 55% de la muestra tiene una mala calidad de sueño y el 15% de los trastornos del sueño. En cuanto al nivel de actividad física, el 65% de los que trabajan fueron clasificados como sedentarios. Con respecto a los dominios de "dolor", se observó una diferencia estadísticamente significativa ($p = 0,01$) apuntando que los universitarios que trabajan presentan más dolor. **Conclusión:** incluso en una población de adultos jóvenes, se observó el estado de vulnerabilidad para el desarrollo de ECV, siendo preocupantes, entre los universitarios que trabajan, el nivel de la calidad de sueño y el sedentarismo observados, que pueden comprometer la salud y la calidad de vida de esa población. **Descritores:** Enfermedades Cardiovasculares; Estudiantes; Factores de Riesgo; Calidad de Vida; Doença Crônica; Sexo.

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INTRODUCTION

Modern society imposes troubled rhythms of life and, it is known, exposes individuals to constant stress situations, and it is common to observe the work in day shifts with the development of nocturnal activities, as well as the night work with daytime activities, among them, the educational process.¹

A disturbed and stressful life pattern is adopted, with unhealthy lifestyle habits, causing a negative effect on the health of the individual and making him prone to develop diseases, such as cardiovascular diseases, arising from the conflict between biological rhythms, the quality of life and the need to work and study at adverse times.²

It should be noted that health, according to the World Health Organization (WHO), can be defined far beyond a simple absence of disease.³ It also includes some factors that are confounded with quality of life such as: lifestyle, eating habits, physical activity, physical and mental well-being and socioeconomic condition, among others.

It is reported that Cardiovascular Diseases (CVDs) are chronic non-transmissible diseases, and the onset is related to risk factors classified as modifiable and non-modifiable. Among the modifiable or avoidable risk factors are smoking, dyslipidemia, Diabetes Mellitus (DM), obesity, sedentary lifestyle, systemic arterial hypertension (SAH), alcoholism, stress, unhealthy lifestyle habits, poor sleep quality and use of certain medications. Non-modifiable or non-preventable are related to heredity, gender and age.⁴

It is noted that CVDs are the most common cause of morbidity and mortality in the world. Data from the WHO indicate that 17.1 million deaths occur each year worldwide and 90% of these deaths are attributed to cardiovascular diseases. CVDs, Stroke, and Coronary Artery Disease (CAD) cause more deaths than all other diseases, and among developing countries Brazil has a statistically significant position.⁵

It is revealed by the Pan American Health Organization (PAHO) that middle- and low-income countries account for about 80% of CVD deaths. In Brazil, about 250,000 deaths per year occur due to cardiovascular diseases, where 80% of these deaths are due to risk factors considered avoidable. The WHO estimates that three-quarters of deaths from cardiovascular disease can be reduced with adequate changes in quality of life.⁵⁻⁶

It was considered pertinent to know the state of vulnerability of working university

students starting from the premise that perceptions regarding the quality of life can favor the emergence of the risk components for cardiovascular diseases making possible the practical and theoretical learning, the scientific production and as a guide for the adoption of preventive measures capable of providing a better quality of life for this population.

OBJECTIVE

- To evaluate the association of risk factors for cardiovascular diseases and quality of life among working university students.

METHOD

This is a quantitative, cross-sectional and analytical study, with 40 students, carried out from August to October 2016, at the Physical Therapy Laboratory and at the Integrated School Clinic of Santa Maria College in Cajazeiras (PB). It contemplated students of the 11 courses offered by the WSF in the three class shifts. The sample was obtained by convenience, made up of 40 participants, of whom 20 worked and 20 did not work. As inclusion criteria, students of both sexes enrolled in all WSF courses and hours, excluding those under 18 years of age, were included as inclusion criteria..

This study was approved by the Ethics and Research Committee of Faculdade Santa Maria through its consolidated opinion no. 1,597,487. The norms of resolution 466/12, of the National Health Council,⁷ that deals with research with humans were followed. In all the stages, the basic references of bioethics were obeyed, being assured the rights and duties that concern the scientific community and the participants of the research that voluntarily became involved in it after the signing of the Free and Informed Consent Term (FICT).

For the collection of data, an individual evaluation form developed by the researchers was used. The data collected in the anthropometric evaluation (weight, height, Body Mass Index (BMI), Abdominal Circumference (AC), Hip Circumference - HQ and Waist - Hip Ratio (WHR) and pressure levels blood pressure, systolic blood pressure, and diastolic blood pressure.) Standardized questionnaires validated for the Portuguese language were also used to obtain data on sleep quality, physical activity level and quality of life.

The procedure described in the Anthropometry Manual was adopted for the anthropometric evaluation.⁸ A scale of the

Filizola brand with a capacity of 150 kg was used. In stature verification, a stadiometer was used. After weight and height were collected, BMI was calculated using the weight / height equation.^{2,9}

It is added that the cut-off points of BMI adopted were those recommended by the WHO, that is, low weight (BMI <18.5); eutrophy (BMI 18.5-24.99); overweight (BMI 25-29.99) and obesity (BMI ≥ 30.00).¹⁰

The AC or Waist Circumference (WC) was measured to identify the distribution pattern of adipose mass, since it is considered the best indicator of presence of central obesity for the evaluation of the risk of cardiovascular diseases.¹¹ Highest AC value that 94 cm for men and 80 cm for women are associated with an increased risk for the onset of cardiovascular diseases and, even more, for AC values greater than 88 cm for women and AC greater than 102 cm for men.⁹

WHR was measured by the ratio between WC and HC. The first was measured in the space between the last rib of the costal grid and the upper surface of the iliac crest. The second, at the greater trochanter level of the femoral bone. The WHR values above 0.85 for women and 0.90 for men are commonly associated with higher risks of obesity-related metabolic changes.¹² The procedures established by the Brazilian Society of Cardiology.⁶

Participants' sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI), a validated questionnaire for the Portuguese language that evaluates sleep-related conditions. The PSQI consists of 19 questions where they are grouped into seven distinct scores and for each a score of zero to three is assigned.¹³ The results have been interpreted taking into account that the sum of all scores may vary from zero to 21, and the higher the values, the worse the quality of sleep. Sleep scores between zero and four are indicative of good sleep quality; five to ten, poor quality, and values greater than ten indicate disturbance.¹⁴⁻⁵

The International Physical Activity Questionnaire (IPAQ), in its short version, was used to measure physical activity levels, being one of the most used questionnaires for assessing levels of physical activity, allowing evaluation only of the last seven days and of individuals with ages ranging from 15 to 69 years.¹⁵⁻⁷

The analysis proposed by the São Caetano do Sul Physical Fitness Laboratory Study Center, responsible for the coordination of the IPAQ in Brazil, has four levels: Very

Active, Active, Irregularly Active and Sedentary.^{12,18}

The Short Form-36 questionnaire (SF-36) was used to evaluate the quality of life of the population, which is a quality-of-life measurement instrument developed in the late 1980s in the United States of America, and has a validated version for Brazil.¹⁹

Data was analyzed in the Statistical Package for the Social Sciences (SPSS 21). Descriptive statistics of relative and absolute frequency, as well as mean, median, standard deviation, minimum and maximum, were used. The Kolmogorov-Smirnov test indicated that the sample had a non-parametric distribution. For this reason, we used non-parametric Mann-Whitney tests and Spearman correlation. A p less than or equal to 5% was accepted as statistically significant, that is, p <0.05.

RESULTS

It has arisen, both in the group of university students who work and in those who do not work, that the majority are female (60% and 80%, respectively) and are aged between 18 and 29 years. However, it is observed that more people who do not work have a night shift (70%), and for those who work, a small majority have a morning study (45%).

It was observed that, when evaluating the use of alcoholic beverage, the groups presented close frequencies for non-use (group that works = 45% and does not work = 40%). In relation to smoking, 100% of those who do not work do not smoke and those who work, 80%.

A small majority of non-working people who have good sleep quality (55%) and are sedentary (45%) were detected with regard to sleep quality and level of physical activity. Among those who work, there is a small majority of people who have poor sleep quality (55%) and are irregularly active (45%).

Table 1 shows the cardiovascular risk indexes according to the work. For the vast majority of comparisons, there were no statistically significant differences, except among those who did not work in relation to sex. Men presented SBP of 125 mmHg (p <0.05) and DBP 80 mmHg (p = 0.01), which were higher when compared to women who had SBP of 110 mmHg and DBP of 70 mmHg.

Table 1. Description and comparison of cardiovascular risk indexes according to work. Cajazeiras (PB), Brazil, 2016.

Work	Sex	Weight	Height	BMI	Abdominal	Hip circumference	WHR	SBP	DBP	
		(Kg)	(m)	(kg/m ²)	circumference (AC)	(HC)	(cm)	(mmHg)	(mmHg)	
No	Female	Average	60.59	1.60	27.28	81.88	93.44	0.87	112.50	72.50
		Median	60.50	1.61	23.60	80.50	92.50	0.87	110.00	70.00
		SD	9.41	0.06	16.67	8.38	8.97	0.26	7.746	5.774
		Minimum	42.55	1.47	17.70	72	83	0.83	90	60
		Maximum	81.60	1.71	89.00	102	114	0.92	120	80
	Male	Average	72.00	1.69	24.62	86.00	96.75	0.88	125.00	80.00
		Median	68.25	1.68	24.45	84.50	96.50	0.88	125.00	80.00
		SD	18.29	0.09	3.93	10.98	12.60	0.02	12.910	0.01
		Minimum	54.50	1.60	20.00	75	83	0.86	110	80
		Maximum	97.00	1.81	29.60	100	111	0.90	140	80
Yes	Female	p-value	0.20	0.09	0.53	0.53	0.67	0.56	0.05	0.01
		Average	68.68	15.24	25.58	87.58	100.42	0.86	114.17	70.83
		Median	61.50	1.63	23.60	82.00	100.50	0.86	115.00	70.00
		SD	16.22	47.16	4.96	13.51	10.79	0.6	11.645	9.003
		Minimum	50.00	1.54	20.30	73	85	0.75	100	60
	Male	Maximum	100.00	165.00	36.70	119	120	0.99	140	80
		Average	78.43	1.72	26.11	90.38	100.75	0.89	122.50	78.75
		Median	74.500	1.70	25.70	92.00	101.50	0.90	120.00	80.00
		SD	13.58	0.10	2.25	8.56	8.12	0.04	20.52	9.91
		Minimum	63.50	1.63	23.10	80	90	0.80	90	60
	Maximum	105.00	1.90	29.70	100	110	0.95	160	90	
	p-value	0.10	0.07	0.24	0.35	0.87	0.18	0.25	0.07	

Table 2 shows the comparisons between the domains of quality of life between the two groups. The results show that only for the "pain" domain there was a statistically significant difference of median (p = 0.01). People who do not work have a higher median

pain compared to those who work. For the interpretation of the domains of the SF-36 questionnaire, it is pointed out that, the lower the value, the worse the repercussion of this domain of participants' quality of life.

Table 2. Comparison of quality of life among working and non-working participants. Cajazeiras (PB), Brazil, 2016.

Work		Funcional capacity	Limitation due to physical aspects	Pain	General Health State	Vitality	Social aspects	Emotional aspects	Mental Health
No	Average	74.50	93.00	83.10	62.40	52.50	82.70	71.95	64.20
	Median	80.00	100.00	87.50	64.50	55.00	75.00	83.00	62.00
	SD	24.19	49.80	19.37	16.64	12.92	22.73	31.98	15.81
	Minimum	30	10	51	27	30	50	10	28
	Maximum	100	275	100	95	80	137	100	88
Yes	Average	71.85	75.85	64.05	61.80	58.75	69.00	69.00	62.10
	Median	80.00	75.00	63.50	59.50	57.50	62.00	66.00	65.50
	SD	23.15	26.72	21.76	13.98	17.83	23.38	29.34	12.66
	Minimum	33	25	21	44	30	17	10	36
	Maximum	100	100	100	90	100	100	100	80
p-value		0.72	0.23	0.01	0.60	0.28	0.11	0.70	0.72

Table 3 shows the negative and statistically significant correlation in the group that does not only work between general health status and weight, that is, there is an inversely proportional correlation between these two

variables. Among those who work, there was a statistically significant and negative correlation between HC and emotional aspects.

Table 3. Correlations between risk factors for cardiovascular problems and quality of life. Cajazeiras (PB), Brazil, 2016.

Work		Funcional capacity	Limitation due to physical aspects	Pain	General Health State	Vitality	Social aspects	Emotional aspects	Mental Health
No	Weight(Kg)	-0.33	-0.07	-0.12	-0.43*	0.30	0.27	0.17	0.02
	Height (m)	-0.14	0.16	-0.04	-0.26	0.21	0.21	0.29	-0.13
	BMI (kg/m ²)	-0.31	-0.14	-0.23	-0.34	0.12	0.05	0.01	-0.05
	(AC)	-0.30	-0.01	-0.33	-0.33	0.14	0.01	0.16	-0.18
	(HC)	-0.16	0.05	-0.41	-0.31	0.06	-0.01	0.22	-0.15
	WHR (cm)	-0.38	-0.10	0.08	-0.09	-0.06	-0.33	-0.29	-0.26
	SBP (mmHg)	-0.10	0.17	-0.41	-0.29	0.01	-0.08	0.10	-0.01
	DBP (mmHg)	-0.07	0.02	-0.24	-0.07	-0.18	-0.06	-0.05	-0.33
Yes	Weight(Kg)	-0.04	-0.04	0.08	0.08	0.24	-0.28	-0.19	-0.21
	Height (m)	0.24	-0.26	0.08	-0.02	0.25	-0.02	-0.04	-0.01
	BMI (kg/m ²)	-0.12	0.10	0.09	0.18	0.31	-0.31	-0.14	-0.16
	(AC)	0.05	0.05	0.16	-0.03	0.37	-0.31	-0.25	-0.33
	(HC)	-0.12	-0.09	0.03	0.01	0.27	-0.31	-0.45*	-0.40
	WHR (cm)	-0.02	0.18	0.20	-0.26	0.18	-0.14	0.02	-0.33
	SBP (mmHg)	-0.39	0.07	-0.01	-0.08	-0.02	-0.05	0.02	-0.24
	DBP (mmHg)	-0.29	-0.03	0.11	-0.02	-0.05	0.10	0.02	-0.06

Table 4 shows that, for non-working participants, there are positive and statistically significant correlations between

functional capacity and the period, mental health and working hours.

Table 4. Correlation between the domains of quality of life and sociodemographic data. Cajazeiras (PB), Brazil, 2016.

Work		Funcional capacity	Limitation due to physical aspects	Pain	General Health State	Vitality	Social aspects	Emotional aspects	Mental Health
No	Sex	-0.06	-0.11	0.09	-0.19	0.13	-0.17	-0.14	0.12
	Age (year)	-0.08	0.24	-0.15	-0.09	-0.02	-0.11	0.34	-0.05
	Study shift	0.20	-0.22	0.01	-0.29	0.42	0.04	0.14	0.04
	Period	-0.31	0.28	-0.19	-0.08	-0.12	-0.15	-0.03	-0.16
	Sex	0.06	-0.11	0.13	0.37	-0.37	-0.13	-0.05	0.31
Yes	Age (year)	-0.03	0.18	-0.19	-0.25	-0.11	-0.33	0.25	-0.18
	Study shift	0.06	0.27	0.25	-0.15	0.06	0.20	-0.08	-0.08
	Period	0.46*	-0.06	-0.14	-0.15	0.12	-0.16	-0.05	-0.03
	Work Time	0.18	0.16	-0.03	-0.05	-0.02	0.21	0.40	0.44*
	Work shift	0.20	0.14	-0.20	-0.18	-0.12	0.01	0.31	0.05

Table 5 shows that, among those who work, there was a statistically significant and

positive correlation between vitality and level of physical activity.

Table 5. Correlations of the domains of quality of life and alcohol, smoking, physical activity and sleep quality. Cajazeiras (PB), Brazil, 2016.

Work		Alcohol	Smoking	Level of physical activity	Sleep Quality
No	Functional Capacity	-0.07	*	-0.08	0.21
	Limitation due to physical aspects	0.29	*	-0.05	0.03
	Pain	-0.21	*	-0.30	-0.19
	General Health state	-0.18	*	-0.12	-0.24
	Vitality	0.15	*	-0.36	0.12
	Social aspects	-0.10	*	-0.11	-0.05
	Emotional aspects	0.18	*	-0.23	0.07
	Mental health	0.20	*	-0.39	0.10
	Functional Capacity	-0.11	-0.10	-0.30	-0.10
	Limitation due to physical aspects	-0.28	-0.14	0.11	-0.19
Yes	Pain	0.12	0.14	-0.34	0.23
	General Health state	-0.01	0.10	0.09	-0.16
	Vitality	0.12	-0.12	0.48*	0.18
	Social aspects	-0.14	-0.27	-0.14	0.04
	Emotional aspects	-0.32	-0.12	-0.18	0.02
	Mental health	-0.21	-0.22	-0.24	0.01

DISCUSSION

It was verified the condition of overweight in the male group that works and that there is a significant and positive correlation between vitality and level of physical activity. Regarding the "pain" domains, a statistically significant difference was observed, indicating that the university students who work have more pain.

It was observed that the majority of the participants were female and 60% of the participants were between 18 and 29 years of age. Similar data were found in a study²⁰ that identified a higher index of female participants and age between 18 and 30 years, with a percentage of 57.36%.

It was found, in relation to the study shift, that 45% of those who work develop their educational activities in the morning period and 40% of these, in the night shift. Nowadays, it is common for individuals to work diurnally and to develop other activities during the night shift. Others work during the night exercising daytime activities, among them, the educational process.¹

Similar results were found in relation to sleep quality²¹, revealing that 54% of university students who work have reported poor sleep quality and 55% are sedentary. Some authors observed the quality of sleep of university students who did not work and found that 56.5% of the students reported having a good quality of sleep and 26.5% of them were sedentary.²² The sleep quality index corresponds to the percentage found here, which was 55%, but contradicts the sedentary aspect, since it was observed in this

population that the sedentary lifestyle reached the index of 45%.

It is noted that in the short term, physical inactivity promotes impairment of cognitive ability, decreased performance of work and school activities, fatigue, stress, irritability, loss of recent memory and sudden mood swings.²³

In the long term, it causes premature aging, reduced overall muscle tone, endocrine, metabolic and immune changes, joint pain, headache, blurred vision and decreased libido and, as a consequence, lead the individual to develop obesity, diabetes, cardiovascular disease and chronic memory loss.¹

It is pointed out that the working student is vulnerable to the onset of illnesses due to the adoption of intense rhythm of life and, at the same time, the development of academic activities with work and family activities that force him to reduce the usual hours of sleep.²⁴

The index of 65% is obtained for the working group, grouping the indices obtained from the sedentary participants with those of the irregularly active ones, a result similar to a survey carried out²⁵ where 65.5% of the students were considered sedentary. A similar index was also observed in another study²⁷ that evaluated the level of physical activity of medical students in Fortaleza-CE and evidenced the high sedentary index of this population, revealing to be even higher in university students of private institutions.

It is mentioned that several factors can interfere in the absence or regular practice of physical activity.²⁰ Among them, the financial difficulties, the lack of availability of time and the company for the physical activity

stand out. Some authors²⁵ do not agree with the idea that lack of money is a watershed for physical activities, since walks are important physical activities and require little financial investment.²⁵

It is emphasized that AC values greater than 94 cm for men and 80 cm for women are associated with an increased risk for cardiovascular disease and, even more, for AC values greater than 88 cm for women and AC greater than 102 cm for men.¹⁰ In this study, it was observed that the median AC for females was 80.5 cm for those who did not work and 82.0 for those who worked.

It is noticed, in relation to pressure levels, that medians of SBP and DBP greater than 120x80 mmHg were not found in this study. According to the Brazilian Society of Cardiology,⁶ SBP of 120 mmHg and DBP of 80 mmHg are considered optimal. Comparing the risk indices for the development of CVD, it was found that, in relation to sex, men presented higher SBP ($p < 0.05$) and DBP ($p = 0.01$) when compared to women.

It was verified that for both the non-working and the working female, the mean values of the WHR were 0.87 and 0.86 cm, respectively. The value of the WHR greater than 0.85 for women and 0.90 for men are commonly associated with higher risks of metabolic changes related to obesity.¹²

A median BMI of 25.70 kg / cm² was considered in the working male population, which, according to WHO, is classified as overweight. As for females, both groups were classified as eutrophic. In one study, 28 evaluated the anthropometric profile of the students of Nutrition, Nursing, Physiotherapy and Physical Education at the La Salle University Center in Canoas / RS, and observed that the working and non-working university students, as in this study, were considered to be eutrophic. With regard to male student students, the classification of overweight was similar to that of this study and the median BMI found was 26.13 kg / cm². In another study they also found for both men and women BMI similar to those found in this study.²⁵

It is reported that physical inactivity causes global weakening in the musculature being directly related to the onset of pains that affect the individuals' quality of life.²⁶

It is pointed out that in relation to weight and quality of life,²⁹ observed that the higher the individual's weight, the lower the quality of life score and, consequently, the worse his health, corroborating the findings in this study since the variables between work and the

general state of health have an inversely proportional correlation, statistically significant and negative for the male group composed of university students who do not work, most of them are sedentary individuals who, according to ABESO,¹⁰ are vulnerable to the development of metabolic alterations which may interfere with your general health.

Identificou-se, no grupo masculino que trabalha, uma correlação significativa e negativa entre CQ e aspectos emocionais. A imagem do corpo representa a autopercepção e o autoconceito que o indivíduo tem de sua aparência física e aceitabilidade social, podendo ser influenciada por fatores sociológicos, emocionais e fisiológicos.³⁰

As regards the correlation between quality of life domains and sociodemographic data, it is believed that the significant and positive correlation between the workday and mental health occurred due to the greater number of participants being young adults. Possibly, these participants find satisfaction in the work they do or in the remuneration they receive by promoting independence and contributing to greater well-being.

It was observed that the lower the work time, the higher the level of satisfaction.³¹ It is also emphasized that motivation with work influences the worker's emotional state, which is expressed in joy, when satisfied, and in the form of sadness, when dissatisfied.

Physical fitness, health, and health-related quality of life in adults were assessed.³² The authors reported that the relationship between vitality and physical activity level may be positive because it conditions positive health outcomes when in the presence of physical activity, or to reveal negative health results, in the absence of physical activity, corroborating what was found here, as it was also observed the existence of a significant and positive correlation between vitality and activity level in the participants who work.

It has been shown that physical activity is fundamental for the promotion of health and for the quality of life of individuals.²⁷ According to the I Brazilian Directive of Cardiovascular Prevention, the individual who practices physical activity is healthier, has better quality and greater expectation of life, since physical activity, physical exercise and sport are part of the preventive approach to the development of CVD.⁶

The limitations of this study are the small number of volunteers who agreed to participate in the research and the research was carried out in a single institution. In

addition, the heredity factor was not questioned to the participants.

CONCLUSION

It is demonstrated by the findings of this study that, even in a population of young adults, the state of vulnerability for the development of CVD is observed, and the level of sleep quality and sedentary lifestyle observed, which may compromise health and, consequently, the quality of life of this population.

It is suggested that there is a need to encourage academics to seek healthy life habits and universities play a fundamental role, as they should contribute, for example, through continuing education, capable of fostering the formation of individuals aware of the importance of cultivating good habits of life making them multipliers of this information in society.

There is evidence of the need for more studies evaluating this population in order to delineate, more precisely, the factors that induce the development of CVD.

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