



Level of self-esteem, physical activity, and nutrition in women who perform work

Nível de autoestima, atividade física e alimentação em mulheres que desempenham atividade laboral

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ABSTRACT

To compare the level of self-esteem, physical activity, and nutrition in university women who perform or do not perform a work activity. This is a descriptive study, which was carried out with 100 women aged 20 to 30, students at a private higher education institution. Questionnaires were applied with data on lifestyle, socioeconomic, physical activity, food consumption, and self-esteem. Of the total evaluated, 46 do not perform work activities. The predominant class of participants were B2 and C1, with the majority being classified as very active and active. An average self-esteem of 10.49 ± 5.01 was found, with no difference between the groups ($p=0.425$). It was also observed that the majority eat their meals while watching TV, on the computer, and/or cell phone, in addition to showing a high prevalence of consumption of sweetened drinks and sweets. It is concluded that the level of self-esteem was considered “satisfactory” among university women, with no difference between eating habits and level of physical activity according to the group.

Keywords: Food. Lifestyle. Physical Activity. Self-esteem. Women.

RESUMO

Comparar o nível de autoestima, atividade física e alimentação em mulheres universitárias que desempenham ou não uma atividade laboral. Trata-se de um estudo descritivo, que foi realizada com 100 mulheres de 20 a 30 anos, estudantes de uma instituição de ensino superior privada. Foi realizado a aplicação de questionários com dados de estilo de vida, socioeconômico, atividade física, consumo alimentar e autoestima. Do total de avaliadas, 46 não desempenham atividade laboral. A classe predominante das participantes eram B2 e C1, com a maioria sendo classificada como muito ativas e ativas. Foi encontrada uma autoestima média de $10,49 \pm 5,01$, sem diferença entre os grupos ($p=0,425$). Também se observou que a maioria faz suas refeições assistindo TV, no computador e/ou celular, além de apresentarem alta prevalência de consumo bebidas adoçadas e doces. Conclui-se que o nível de autoestima foi considerada “satisfatória” entre as mulheres universitárias, sem diferença entre os hábitos alimentares e no nível de atividade física de acordo com o grupo.

Palavras-chave: Alimentação. Atividade Física. Autoestima. Estilo de Vida. Mulheres.

INTRODUCTION

As instruções abaixo são fornecidas para auxiliar na preparação dos trabalhos científicos a serem submetidos à revista Saúde e Pesquisa.

Throughout history, women's identity has been transformed by several factors, including changes in society's behaviors, beliefs, and customs. It was common for women to dedicate themselves to domestic work and taking care of children. However, with the insertion of women into the job market, domestic duties, which were already customary, were added to dedication to external work to obtain remuneration. This fact caused an accumulation of activities, and consequently an overload in the daily lives of many women.¹

The lifestyle changes, resulting from factors such as industrialization, more hectic routines, and especially a greater supply of places to eat outside the home, are aspects that contribute to the increase in eating outside the home and which, consequently, end up allowing for greater consumption of ready-made, processed and ultra-processed foods.²

The 19th and 20th centuries brought a great change to the world from the framework of the Industrial Revolution with the process of urbanization and technological advancement. In the food field, the development of industries began to produce products on a large scale and of great variety, which are characterized by being low cost, rich in chemical additives and calories, and simple to prepare to fit into people's daily lives. Therefore, eating habits and food consumption take on a new shape and begin to impact new food choices.³

Therefore, a survey carried out with students from Poland found that more than 40% of students did not eat vegetables at least once a day, and more than 50% did not eat fruits⁴, which are foods that contribute to the health of the population. Furthermore, during stressful periods there is a tendency for students to

consume more food,⁵ which can have a negative impact on female students, as they often have an overload of tasks.

Food choices are influenced by determinants of the food itself, such as taste and appearance; and determinants of the individual such as physiological, psychological, and social issues. The media is a powerful tool for determining individuals' consumption behavior; advertisements for ultra-processed foods shown on television, for example, can influence an individual's choice in several ways, as they use attractive visual resources that increase the consumer's chances of purchasing that product.⁶

Furthermore, eating habits are related to the interaction between the individual and food. These are practices acquired over time, which tend to be maintained over generations; and are formed based on family, genetic, social, and media determinants. Similar to eating habits, the perception of body image is also formed from these factors, which have been built since childhood, negatively or positively interfering with self-esteem.⁷

In this sense, according to Rosemberg,⁸ self-esteem is related to the individual's feelings and thoughts about themselves, which can be positive or negative, interfering in interactions with themselves and others. Considering that the individual is a biopsychosocial being, it is shaped according to the environment in which they live, their experiences, cognitive, emotional, and social dimensions of the personality, and influences behavior and emotions.⁹ It will interfere with how the individual sees the world, in which case positive, will see itself confidently, with admiration; If not, he will see himself as weak and incapable of handling life's issues with capacity.

Associated with the issues already mentioned, the lack of time and the busy life of today, lead many women to give up taking care of their diet, practicing physical activity, and self-care, factors that have a significant impact on

their self-esteem. Thus, physical activity should provide the individual with experiences that enable the development of their body image, in which the perception of satisfaction with it increases depending on the levels of physical activity.¹⁰ However, it is noteworthy that data with university students in Germany found that only 19% of them comply with all physical activity recommendations,⁵ therefore, the practice should be encouraged among them.

Thus, lifestyle variables, through healthy eating and regular physical activity, can have a positive impact on self-esteem and help promote the health of the population, reducing the risk of diseases, as well as chronic diseases.¹¹ It is important to investigate lifestyle habits, and the impact on women's self-esteem and health, so that care actions and multidisciplinary practices can be more effective in this population. Therefore, the objective of this work was to compare the level of self-esteem, physical activity, and nutrition in female university students whether or not they perform a work activity.

METHODOLOGY

RESEARCH AND SAMPLE TYPES

This is a descriptive study, with a cross-sectional design, which took place from March to June 2023, in which data were collected using semi-structured questionnaires. The research was carried out with 100 women aged 20 to 30, students at a private higher education institution in the city of Ubá, state of Minas Gerais, whether or not they perform a work activity, with the sample number being based on previous research carried out with women.

The information was collected during class breaks, and the entire procedure was conducted by two properly trained evaluators. To compose the sample, the following inclusion criteria were adopted: a) having signed the

Informed Consent Form; b) being a woman, a university student, between 20 and 30 years old. As exclusion criteria: a) participants who did not complete the entire questionnaire.

Initially, the research was disseminated among university students, as well as the objectives and procedures of the study were explained. Subsequently, for those evaluated who agreed to participate, and met the inclusion and exclusion criteria, the consent form and questionnaires (sociodemographic, economic class, diet, physical activity, and self-esteem) were applied.

RESEARCH ETHICAL ASPECTS

The participants authorized the research by signing the Free and Informed Consent Form. This term ensures that everyone accepts and agrees to participate in the research voluntarily. All procedures adopted followed Resolution No. 466/12 of the National Health Council. The Research Project was approved by the Ethics Committee for Research with Human Beings, CAAE number (64469322.2.0000.8108).

METHOD

A sociodemographic questionnaire was applied, with questions about sex, age, skin color, professional status, alcohol consumption, and smoking. Furthermore, participants completed the Economic Classification Criteria (CCEB) questionnaire from the Brazilian Association of Research Companies (ABEP).¹² The basic principle of this methodology is to discover comfort items that have a strong correlation with family income. Once these items that discriminate income are discovered, an attempt is made to establish a system of points (or weights) that, attributed to possession (and, sometimes, to the number of items owned), the level of education of the head of the family and access to public services, will allow us to know the total score of

each individual or family. Thus, according to the score, it is possible to define which stratum each individual or family studied belongs to (A, B1, B2, C1, C2, D-E).

The international Physical Activity questionnaire, in its short version, was also Applied. It contained questions related to activities carried out in a usual week, which are associated with activities carried out at work and leisure, commuting, at home, and the time spent on activities in a sitting position. This questionnaire estimates the weekly time spent in physical activities of moderate and vigorous intensity and walking. Finally, the individual is classified as “sedentary, insufficiently active A and B, active and very active”, according to the IPAQ itself.¹³

Information on food consumption was collected using the Food Consumption Markers Form of the Food and Nutritional Surveillance System (SISVAN), whose main objective is to monitor the nutritional status and characteristics of food consumption of individuals.¹⁴ The form has “yes”, “no” and “I don’t know” questions, involving the individual’s eating behavior, to investigate, on the day before the survey, the consumption of healthy eating markers (consumption of beans, vegetables, and fresh fruits) and unhealthy (hamburgers and/or sausages; Sweetened drinks; Instant noodles, snacks or salty biscuits; and Stuffed biscuits and sweets).

Finally, the Rosemberg Self-Esteem Scale⁸ was used, and validated by Dini, Quaresma, and Ferreira.¹⁵ It is an easy-to-apply and reliable scale. It has ten closed sentences, five referring to positive “self-image” or “self-worth” and five referring to “negative self-image” or “self-depreciation”. These statements are answered on a scale of 4 ratings, with values from 0 to 3 for each of them, according to the degree of agreement of the person evaluated concerning the statement, which are: Statements 1, 3, 4, 7, 10 - 0 (a) I totally agree, 1 (b) I agree, 2 (c) I disagree, and 3 (d) I

totally disagree; Statements 2, 5, 6, 8, 9 - 3 (a) I totally agree, 2 (b) I agree, 1 (c) I disagree, and 0 (d) I totally disagree. In the end, by adding the value of each classification, a maximum score of 30 points can be reached, which would mean very low self-esteem, that is, the lower the individual’s score, the higher their self-esteem.¹⁶

STATISTICAL ANALYSES

All statistical analyses were performed using the SPSS program, version 21.0 (Chicago, USA). Continuous variables were described as mean and standard deviation and categorical variables as relative and absolute values. For continuous variables, the Komolgorov-Smirnov test was performed to verify the assumption of normality. To compare the means between the groups analyzed (women who work and those who do not work), the Mann-Whitney test was performed and, to compare prevalence, the Pearson’s Q-square test was used. For all treatments, a two-sided significance level of 5% was adopted.

RESULTS

The work was carried out with 100 women aged between 20 and 30 years old. Out of the total, 54% (n=54) work and 46% (n=46) do not. There was no difference in any of the characteristics analyzed according to the belonging group (Table 1).

Table 1. Sociodemographic and lifestyle characteristics of the assessed individuals, according to work activity, Ubá, state of Minas Gerais, 2023.

	Perform labor activities (n=54)	Do not perform labor activity (n=46)	P value
Age	22.39±2.66	21.91±1.94	0.618 [‡]
Self-esteem	10.07±4.96	10.98±5.08	0.425 [‡]
Skin color			0.552 [§]
White	36 (66%)	30 (65.2%)	
Black	3 (5.6%)	4 (8.7%)	
Yellow	2 (3.7%)	0 (0%)	
Multiracial	13 (24.1%)	12 (26.1%)	
Smoking			1.000 [*]
No	52 (96.3%)	44 (95.7%)	
Yes	2 (3.7%)	2 (4.3%)	
Alcohol consumption			0.416 [*]
No	18 (33.3%)	11 (23.9%)	
Yes	36 (66.7%)	35 (76.1%)	

Source: Research data.

[‡]Mann Whitney Test; [§]Pearson's Chi-Square Test; ^{*}Chi-Square test with continuity correction.

It can be seen in Figure 1 that the majority of participants are from classes B2 and C1, and have an active or very active level of physical activity.

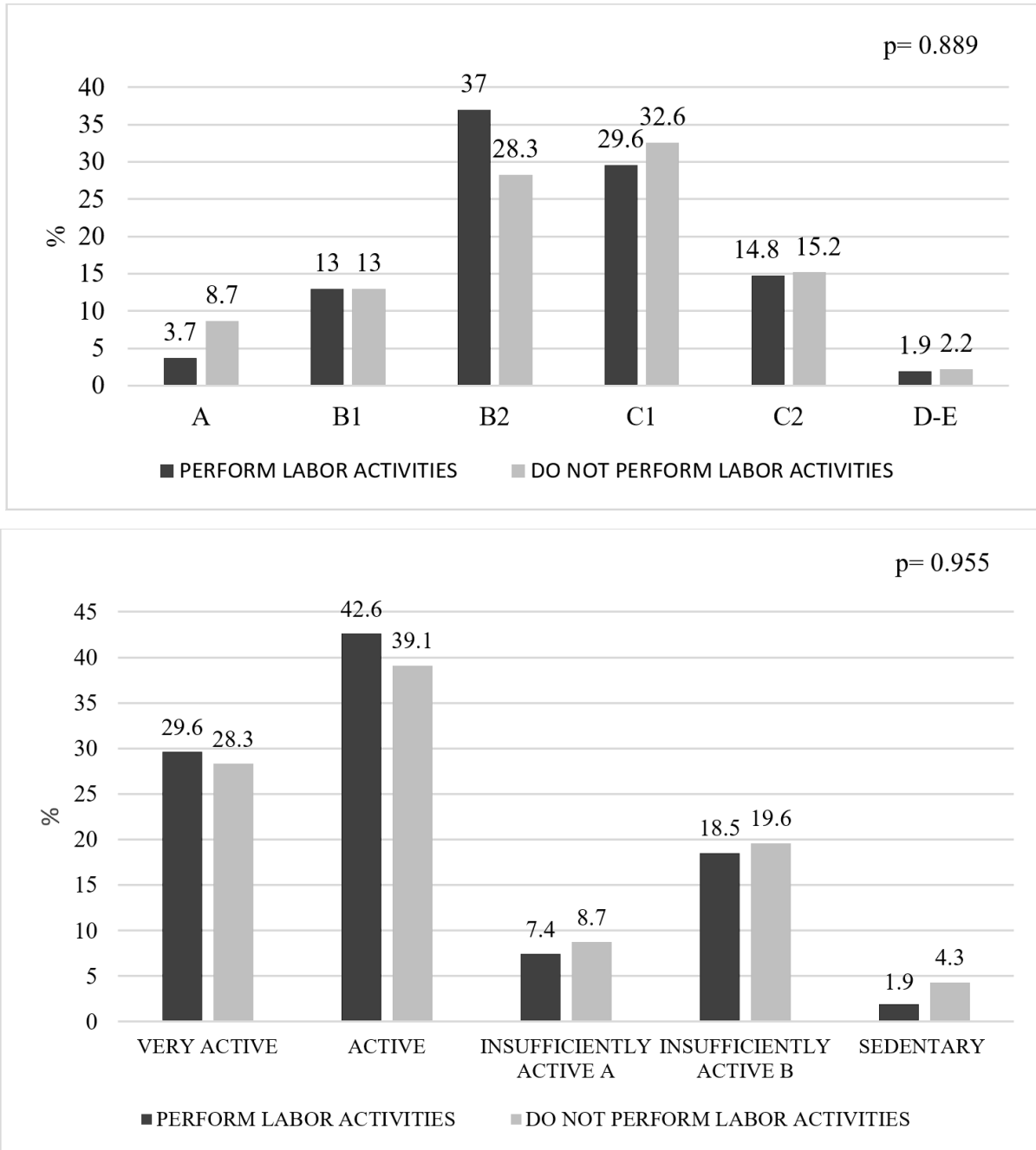


Figure 1. Socioeconomic and physical activity level of those evaluated, according to labor activity, Ubá, state of Minas Gerais, 2023.

Source: Research data. Pearson’s Chi-Square test.

Regarding food consumption markers, it was possible to observe that 64% of participants ate their meals while watching TV, on the computer, and/or cell phone. Furthermore, 82% reported consuming beans the day before, 63% reported consuming fresh fruit, and 82% consuming vegetables. Regarding unhealthy eating markers, 40% reported the consumption of hamburgers and sausages, 49% reported

the consumption of sweetened drinks, 22% of instant noodles, snacks, or savory biscuits, and 50%, the consumption of stuffed biscuits, sweets, or treats the day before. When evaluating these characteristics of food consumption, according to whether or not a work activity was practiced, no statistically significant differences were found (Table 2).

Table 2. Characteristics of food consumption of those evaluated, according to labor activity, Ubá, state of Minas Gerais, 2023.

Markers	Do perform labor activity (n=54)			Do not perform labor activity (n=46)			P value
	Yes	No	Do not know	Yes	No	Do not know	
Meals by watching TV or using a computer and/or cell phone	35 (64.8%)	19 (35.2%)	0 (0%)	29 (63%)	17 (37%)	0 (0%)	1.000*
Beans	43 (79.6%)	11 (20.4%)	0 (0%)	39 (84.8%)	7 (15.2%)	0 (0%)	0.684*
Fresh fruits	31 (57.4%)	22 (40.7%)	1 (1.0%)	32 (69.6%)	14 (30.4%)	0 (0%)	0.338§
Vegetables	42 (77.8%)	12 (22.2%)	0 (0%)	40 (87%)	6 (13%)	0 (0%)	0.353*
Hamburgers and/or processed food	21 (38.9%)	32 (59.3%)	1 (1.9%)	19 (41.3%)	27 (58.7%)	0 (0%)	0.641§
Sweetened beverages	25 (46.3%)	28 (51.9%)	1 (1.9%)	24 (52.2%)	22 (47.8%)	0 (0%)	0.575§
Instant noodles, snacks or salty biscuits	11 (20.4%)	42 (77.8%)	1 (1.9%)	11 (23.9%)	35 (76.1%)	0 (0%)	0.606§
Stuffed biscuits and sweets	27 (50%)	27 (50%)	0 (0%)	23 (50%)	23 (50%)	0 (0%)	1.000*

Source: Research data.

§ Pearson's Chi-Square Test; *Chi-Square test with continuity correction.

DISCUSSION

The objective of this work was to compare the level of self-esteem, physical activity, and nutrition in women who do or do not perform a work activity. Thus, the main findings were: 1) The students had an average self-esteem of 10.49 ± 5.01 , with no difference between the groups; 2) the majority of the assessed individuals are in classes B2 and C1, and are active; 3) it was observed that the majority have their meals while watching TV, on the computer and/or cell phone, with a large consumption of sweetened drinks and sweets; and with a high consumption of alcohol.

It was not found in this work any difference in the self-esteem of university women, who showed an average of 10.49 ± 5.01 , which can be considered a "satisfactory" value, as the lower the value obtained in the score, the higher their

self-esteem. This is positive data given that the high prevalence of stress and emotional disorders in students often occurs due to the long hours dedicated to studying and the lack of free time for leisure activities. Therefore, university students constitute a population vulnerable to mental imbalance and/or a crisis arising from stressors related to graduation¹⁷. Furthermore, according to a work by Younes et al.,¹⁸ low self-esteem was associated with a rise in insomnia, anxiety, depression, stress, and excessive internet use, which is very present in the routine of university students.

Self-esteem consists of a person's assessment of their value. It normally manifests itself through acceptance as a person and self-confidence, influenced by the environment in which they are inserted and being able to influence their experiences, which brings together cognitive and affective aspects.¹⁹ This finding can

be explained, according to Hutz and Zanon,⁹ in which the perception of self-esteem is associated with the recognition that the individual receives from their social environment, which needs to give them respect and appreciation.

According to a work by Bandeira et al.²⁰ that analyzed the relationship between assertive behavior and self-esteem, it was observed that the greater the degree of assertiveness of university students and social skills, the higher their self-esteem. These variables can influence the feeling of loneliness, social support, satisfaction with academic life and life in general, relationship with people's psychological well-being, better performance, and self-esteem.

Regarding socioeconomic issues, the participants in the following research were mostly from classes B2 and C1. Socioeconomic status is a critical factor that influences everyone's quality of life and well-being. It influences human functioning in multiple ways, in particular on development processes throughout the life cycle and psychological and physical health. Therefore, it can be considered that economic class is a risk factor for the individual's health and well-being at a physical, mental, and social level, that is, it will interfere with the individual's self-esteem.²¹

Regarding the level of physical activity, it was possible to observe that the majority of those evaluated were classified as "very active" and "active". In a study conducted by Silva et al.²² at a public university where 348 university students were evaluated, the majority of those evaluated mentioned that they practiced physical activity, with 59.7% being female. On the other hand, a study carried out by Oliveira et al.²³ with 284 undergraduate students in the health area, found that 58.8% of the sample evaluated did not reach the recommendation of 150 minutes of physical activity. Thus, this is data that deserves to be better studied, as it is known that physical activity contributes to significant changes in body composition parameters, mainly in the reduction of body fat and increase in lean mass, thus

being an important factor in the regulation and maintenance of the body mass.²⁴

In addition, according to Couto et al.²⁵, insufficient levels of physical activity are associated with lower quality of life in university students. On the other hand, the practice of physical activity contributes to better self-esteem of individuals²⁶, which different types of exercise can interfere with the psychological attributes of the practitioner.²⁷ Thus, this fact may have contributed to the satisfactory result in the self-esteem of those evaluated in this work.

For the results of the present study, the majority of those evaluated, both those who perform work activities and those who do not, have their meals while watching TV, on the computer and/or cell phone. Melo et al.²⁸ in a work with 75 students carried out in a private school in the city of Teresina, in the state of Piauí, found that the use of electronic devices and the consumption of ultra-processed foods are directly related. The consumption of hamburgers and ice cream was significantly associated with the habit of watching television. And that of eating stuffed cookies was statistically associated with cell phone use. Another study carried out by Sousa, Franzoi, and Morais²⁹ with teenagers, found that as screen time increases, it is possible to observe a decrease in the consumption of vegetables; and an increase in the consumption of sweetened beverages.

Thus, it is observed that the excessive use of electronic devices can contribute to obesity, as people tend to eat more high-calorie foods when they eat while watching television. This is because they are encouraged to consume food excessively and inattentively while watching TV and exposure to food advertising induces the consumption of advertised products, which are often unhealthy.

It can be seen in this study that both those evaluated students who work and those who do not, have excessive consumption of stuffed biscuits and sweets. By analyzing eating patterns and the increase in obesity, Bastos,

Bílio, and Fernandes³⁰ to characterize the food consumption of adults, developed a study on both sexes, in which high consumption of fats and sugars was observed, thus resulting in poor quality of their food. In turn, Berti *et al.*³¹ found that younger adults consume more ultra-processed foods, which may have impacted the results of the present study, given that the average age of the sample is close to 22 years old.

In an experiment carried out by Levy-Costa *et al.*³², it was observed that the excessive consumption of “added sugars” in Brazilian households has exceeded the maximum consumption limit recommended by the World Health Organization (WHO) by more than 60%. This scenario was found in all regions of Brazil, in urban and rural areas, and all income classes.

Thus, the works cited above highlight the high consumption of sugar by the Brazilian population. In which the probability of developing various diseases, including obesity, further worsens the situation, as obesity in itself is the major precursor to the development of chronic non-communicable diseases.

According to Nunes, Figueiroa, and Alves³³ in a research carried out in Campina Grande, state of Paraíba, as in our research, high frequencies of unhealthy eating habits were observed, especially in those belonging to the highest economic classes. In which the daily consumption of soft drinks, sweets (treats), and snacks was more common in economic classes A and B1. Therefore, it is likely that economic factors explain these findings as these types of foods have a higher cost when compared to the others analyzed in this experiment. However, these data must be better analyzed, since in the present study the majority of those evaluated were in class B2 and C1.

Another fact analyzed in the present study was concerning smoking and alcohol consumption. It showed a reduced prevalence of smoking and a high prevalence of alcoholic beverages among those evaluated. In fact, recent

data from the Ministry of Health indicate a reduced prevalence of smoking in the Brazilian population, which is lower among females (7.2%).³⁴ This is positive data, given that smoking is related to a series of diseases.³⁵

On the other hand, it is common to observe high alcohol consumption among university students,³⁶ as observed in this work. Therefore, more prevention measures must be implemented in this specific population, as despite being a legal drug, alcohol consumption is associated with cardiovascular diseases.¹¹

It should be observed that the present study had some limitations, such as carrying out a cross-sectional design, which makes a greater cause-and-effect relationship impossible; the use of a questionnaire, as it does not allow for a more in-depth analysis of those assessed; and the sample was limited to a single university, which may restrict the generalizations of the results.

Nevertheless, it should be observed that it is an important implication the fact that alcohol consumption is still high among the university public, and measures must be taken to reduce its consumption; as well as the need to implement healthier eating practices.

CONCLUSION

The results allow us to conclude that self-esteem was considered “satisfactory” among university women. Furthermore, it was observed among the students that the majority have a high level of physical activity; however, they have their meals while watching TV, using the computer and/or cell phone, with a high consumption of sweetened drinks and sweets and treats; and alcoholic beverages.

The need for further work on the topic is highlighted, covering more participants and with a longitudinal design, so that they can contribute to increasing information about the relationship between self-esteem and physical activity and nutrition.

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