

## Evaluation of food habits in university students

*Avaliação dos hábitos alimentares em estudantes universitários*

*Evaluación de hábitos alimentarios en estudiantes universitarios*

### ABSTRACT

**Objective:** To evaluate the eating habits of university students. **Method:** A descriptive, cross-sectional study conducted with 204 undergraduate students through questions adapted from the Risk Factors Surveillance and Protection for Chronic Diseases Survey instrument of the Ministry of Health. Data were analyzed using descriptive statistics. **Results:** Considering the Food Guide for the Brazilian Population, it was found an inadequate consumption of the food groups: fruits, vegetables, carbohydrates, meat and eggs, fish, milk and derivatives, fried foods, sweets, soft drinks, and salt, with inadequate consumption between 60% to 96% of university students. Results showed that 61% consumed vegetables (legumes), 63% removed the apparent fat from meat, and 60%, 99%, and 85% had the main meals, breakfast, lunch, and dinner, respectively. **Conclusion:** Eating habits among university students were mostly inadequate, which predispose them to risk factors for the development of cardiovascular diseases throughout their lives. These data contribute to the importance of universities proposing intervention actions with students for healthier food choices. **Descriptors:** Diet; Eating Behavior; Students.

### RESUMO

**Objetivo:** Avaliar os hábitos alimentares de estudantes universitários. **Método:** Estudo descritivo, transversal, realizado com 204 universitários, por meio de questões adaptadas do instrumento para a Vigilância de Fatores de Risco e Proteção Para Doenças Crônicas por Inquérito Telefônico do Ministério da Saúde. Os dados foram analisados por meio de estatística descritiva. **Resultados:** Considerando o Guia Alimentar para a População Brasileira, encontrou-se um consumo considerado inadequado dos grupos alimentares: frutas, verduras e legumes, carboidratos, carnes e ovos, peixes, leite e derivados, frituras, doces, refrigerantes e sal, com consumo inadequado entre 60% a 96% dos universitários. Em relação a leguminosas, 61% consumiam, 63% tiravam a gordura aparente das carnes, e 60%, 99% e 85% realizavam as principais refeições café da manhã, almoço e jantar, respectivamente. **Conclusão:** Os hábitos alimentares entre os estudantes universitários apresentaram-se, em maior parte, inadequados, o que os predispõem a fatores de risco para o desenvolvimento de doenças cardiovasculares ao longo da vida. Esses dados colaboram para a importância de as universidades proporem ações de intervenção junto aos estudantes para escolhas mais saudáveis de alimentação. **Descritores:** Dieta; Comportamento Alimentar; Estudantes.

### RESUMEN

**Objetivo:** Evaluar los hábitos alimenticios de los estudiantes universitarios. **Método:** Estudio descriptivo, transversal, realizado con 204 estudiantes universitarios a través de preguntas adaptadas del instrumento de Encuesta de Vigilancia de Factores de Riesgo y Protección para Enfermedades Crónicas del Ministerio de Salud. Los datos se analizaron mediante estadística descriptiva. **Resultados:** Considerando la Guía de Alimentos para la Población Brasileña, se encontró un consumo inadecuado de los grupos de alimentos: frutas, verduras, carbohidratos, carne y huevos, pescado, leche y derivados, alimentos fritos, dulces, refrescos y sal, con consumo inadecuado entre 60% a 96% de estudiantes universitarios. Con respecto a las legumbres, el 61% consumió, el 63% eliminó la grasa visible de la carne y el 60%, 99% y 85% comió las comidas principales desayuno, almuerzo y cena, respectivamente. **Conclusión:** Los hábitos alimenticios entre los estudiantes universitarios fueron en su mayoría inadecuados, lo que los predispone a factores de riesgo para el desarrollo de enfermedades cardiovasculares a lo largo de sus vidas. Estos datos contribuyen a la importancia de que las universidades propongan acciones de intervención con los estudiantes para elegir alimentos más saludables. **Descritores:** Dieta; Conducta Alimentaria; Estudiantes.

Europeia Leite da Silva Oliveira<sup>1</sup>

 [0000-0002-0646-1698](https://orcid.org/0000-0002-0646-1698)

Mara Cristina Ribeiro Furlan<sup>1</sup>

 [0000-0003-3227-7074](https://orcid.org/0000-0003-3227-7074)

Catchia Hermes Uiliana<sup>1</sup>

 [0000-0002-2698-0022](https://orcid.org/0000-0002-2698-0022)

Aires Garcia dos Santos Junior<sup>1</sup>

 [0000-0002-5946-0197](https://orcid.org/0000-0002-5946-0197)

Letícia Akie Nagata<sup>1</sup>

 [0000-0003-4418-086X](https://orcid.org/0000-0003-4418-086X)

<sup>1</sup> Universidade Federal de Mato Grosso do Sul.

### Autor correspondente:

Europeia Leite da Silva Oliveira

E-mail: [europa.oliveira@hotmail.com](mailto:europa.oliveira@hotmail.com)

### How to cite this article:

Oliveira ELS, Furlan MCR, Uiliana CH, et al. Evaluation of food habits in university students. Revista de Enfermagem do Centro-Oeste Mineiro. 2021;10:e3742. [Access \_\_\_\_]; Available in: \_\_\_\_\_. DOI: <http://doi.org/10.19175/recom.v10i0.3742>

## INTRODUCTION

The demand for nutritional care has grown significantly, both in Primary Health Care and in clinics and offices due to the increased prevalence of chronic non-communicable diseases (CNCD) and the recognition that the adoption of an unhealthy diet represents one of the major determinants of these diseases <sup>(1)</sup>.

Approximately 82% of premature deaths from NCDs occur in low- and middle-income countries, with statistics showing that about half of these deaths occur during the productive life of individuals, with cardiovascular diseases (CVD) as the responsible for most of them, corresponding to 37% <sup>(2)</sup>.

Many of the cardiovascular risk factors (CRF) are modifiable and can contribute to the reduction of morbidity and mortality when controlled, also including physical inactivity and unhealthy eating <sup>(3)</sup>.

Adequate and varied eating contributes to the protection against CNCDs that are potentially fatal such as diabetes, hypertension, stroke, heart disease, and some types of cancer that, together are the main causes of disability and death in Brazil and several other countries <sup>(4)</sup>.

On the other hand, inadequate eating of fast foods mostly industrialized, ready or easy to prepare and unhealthy, influence the low intake of fruits and vegetables, reducing the consumption of whole grains, legumes, roots, and tubers, hindering to reconcile health, learning, and pleasure <sup>(5-6)</sup>.

Changes from a new way of life such as entering university, new social relationships, the adoption of behaviors, and differentiated lifestyles can make university students great consumers of inadequate food and, possibly, a vulnerable group to the circumstances risking their health <sup>(7)</sup>. Therefore, we believe that access to information on food and nutrition and the monitoring of food consumption is important for the identification of risky behavior, guaranteeing the full development potential of university students.

In health promotion, the relationship between healthy eating and quality of life has been widely discussed in recent years. This is because studies have shown that improving eating habits can reduce the risk of developing several CNCDs <sup>(8)</sup>.

By the fundamental role that healthy eating plays in preventing CVD and that the earlier the adoption of healthy habits, the greater the protective factor in adult or elderly age, this study

aimed to evaluate the eating habits of university students.

## METHODS

This is a descriptive and cross-sectional study with university students from all courses at the Coxim Campus (CPCX) of the Federal University of Mato Grosso do Sul (UFMS). The courses are Nursing, Language, Information Systems, and History.

The municipality of Coxim, in the state of Mato Grosso do Sul, in the Midwest region of Brazil, 245 km away from the capital Campo Grande, has a predicted population in 2017 of 33,323 inhabitants <sup>(9)</sup>. It is the headquarters of the northern health micro-region of Mato Grosso do Sul, being a reference for five municipalities.

A trained team performed data collection, from July to August 2016, in the classroom for each course individually, after a pre-scheduled date with the coordinator of each course and authorization from the teacher who taught the class at the time. The inclusion criterion was to be enrolled in an undergraduate course at UFMS/CPCX. The exclusion criterion was to be in a compulsory internship. We invited all students in the classroom to participate. There were 367 students enrolled in UFMS/CPCX courses. Of this total, 24 were in a compulsory curricular internship. There was a refusal and 138 students were not present on the date scheduled for data collection. Therefore, 204 university students participated in the study.

The guidelines regarding the objectives of the research, the confidential nature of the information collected, the right to refuse to participate in any phase of execution, and the guarantee of not suffering any burden or gratification for their participation and about filling out the instrument, were properly informed to university students. The students over 18 years old signed the Free and Informed Consent Term (ICF) in two copies and the minors obtained authorization from the person responsible through the Assent Form (AF). The data collection for these has been scheduled for a later date.

The Methodology of the Brazilian Association of Research Companies assessed the socioeconomic profile <sup>(10)</sup>. The technique groups the categories according to the purchasing power of urban people and families, the hiring of a domestic worker, and the level of education of the head of the family. The students were grouped in economic classes A1, A2, B1, B2, C1, C2, D, and E

later regrouped in classes A/B (high), C (medium), and D/E (low).

When studying the food consumption of the participants, we formulated a questionnaire with questions adapted from the instrument for the Surveillance of Risk and Protection Factors for Chronic Diseases by Telephone Survey (*VIGITEL*) of the Ministry of Health<sup>(4)</sup>. The questions about food consumption allowed a direct answer to each food (fruits, vegetables, beans, fatty foods, sugar, meat, and soft drinks), and the answer options were divided into six categories (once or twice a week, three to four times, five to six times, every day, hardly never and never).

Food consumption was classified as adequate and inadequate according to the Brazilian food guide. It recommends the daily consumption of six portions of carbohydrates, three portions of fruits, three portions of vegetables, a portion of legumes, a portion of meat or eggs, three servings of milk and dairy products, one serving of foods from the oil and fat group, maximum 5g of salt (a shallow teaspoon), six to eight glasses of water. Also, fish should be eaten twice a week, and fried foods, sweets, or soft drinks rarely or never<sup>(11)</sup>.

For analysis, we transcribed the data to an Excel spreadsheet and we verified possible

misunderstandings such as errors in the entry or omission of answers, and later, we used descriptive statistics.

The research followed all the ethical aspects provided for in Resolution 466/12 of the National Health Council. The project was submitted via *Plataforma Brasil* (CAAE: 43290415.3.0000.0021) and approved by the Ethics Committee in Research with Human Beings of the Federal University of Mato Grosso do Sul, under opinion number 1,065,671/2015.

## RESULTS AND DISCUSSION

In the 204 study participants, we observed that 112 (54.9%) were students in the Nursing course, 48 (23.5%) in Language, 25 (12.3%) in Information Systems, and 19 (9, 3%) in History. Regarding sociodemographic characteristics, 158 (77.5%) were female, 46 (22.5%) were male, 110 (53.9%) called themselves brown, 61 (29.9%) white, 16 (7.8%) black and four (2.0%) yellow. Regarding the economic class, 135 (66.2%) students were middle class, 39 (19.1%) high class and 29 (14.3%) low class. The age of the participants ranged from 17 to 58 years old, with an average of 25.9 years old.

**Table 1** - Absolute and relative frequency of food consumption among university students. Coxim, 2016

Food groups	Type of food			
	Adequate		Inadequate	
	N	%	N	%
Fruit	44	21	160	79
Vegetables and greens	82	40	122	60
Legumes	124	61	80	39
Carbohydrates	21	10	183	90
Meat and eggs	58	28	146	72
Fish	30	15	174	85
milk	67	33	137	67
Fried food	38	19	166	81
Sweets and soft drinks	9	4	195	96
Water	121	60	83	40

Source: Study data.

As for food consumption, in most cases, university students had inadequate consumption of fruits and vegetables, in which 56 (27%) do not consume them every day and 66 (32%) consume them less than what is considered adequate. The group of legumes was the only one that obtained an adequate consumption in more than half of the university students, 14 (7%) who do not consume them and 66 (32%) who consume them less than recommended.

Regarding carbohydrates, 38 (19%) university students consume them less than recommended and 145 (71%) consume them more than recommended. Regarding meat and eggs, 145 (71%) consume them more than is considered adequate. Regarding milk and dairy products, 8 (4%) university students do not consume them, 31 (15%) consume them more than the adequate, and 98 (48%) less than recommended. The fried foods, sweets, and soft drinks were rarely consumed only by a small percentage, or never consume these

foods (19% and 4% respectively), with most of them answering “they eat every day or more than three times a week” for both groups.

Regarding regular water consumption, 33 (17%) drink the recommended amount, 88 (43%) drink up to more than eight glasses a day, while 83 (40%) consume less than six glasses a day (Table 1).

**Table 2** - Eating habits described by university students. Coxim, 2016

Food consumption	Total students	
	N	%
<b>Usually removing the apparent fat from meat</b>		
Yes	128	63
No	73	36
Do not eat	3	1
<b>Type of milk and dairy products</b>		
Whole	136	67
Low in fat	39	19
Unpasteurized	23	11
<b>Type of fat most used for cooking food</b>		
Animal fat or butter	24	12
Vegetable oil such as soy, sunflower, corn, cotton, or canola	169	83
Margarine or vegetable shortening	8	4
<b>Putting more salt in food when served on the dish</b>		
Yes	172	84
No	32	16
<b>Meals usually eaten during the day</b>		
<b>Breakfast</b>		
Yes	122	60
No	82	40
<b>Morning snack</b>		
Yes	54	26
No	150	74
<b>Lunch</b>		
Yes	202	99
No	2	1
<b>Afternoon snack</b>		
Yes	118	58
No	86	42
<b>Dinner</b>		
Yes	173	85
No	31	15
<b>Snack before bed</b>		
Yes	71	35
No	133	65
<b>Usually, read the nutritional information on the label of processed foods before buying them</b>		
Never	67	33
Rarely	54	26
Sometimes	65	32
Always usually	16	8

**Source:** Study data. Answer as I do not know/did not were deleted.

Adequate eating habits were prevalent in the removal of apparent fat from meat (63%), and the use of vegetable oils for food preparation (83%). However, we observed habits that were considered inadequate such as consumption of whole milk (67%) to the detriment of low-fat content (19%). Also, most of the participants added salt to the food already served on the dish (84%) (Table 2).

As for the habit of having one of the main meals, we observed the frequency of 60%, 99%,

and 85% for breakfast, lunch, and dinner, respectively (Table 2).

Most students (91%) do not have a routine habit of reading food labels before purchasing them.

## DISCUSSION

The data presented showed a prevalence of inadequate eating habits in more than half of the studied sample of practically all the food groups investigated. Despite being in a young age group,

maintaining these inadequate habits makes them individuals with risk factors for acquiring cardiovascular disease.

One of the hypotheses for this eating behavior in students is that, in the daily life of the university, most are committed to having a good academic performance and participating in the cultural and social life that the university provides, while, for many, providing and caring of food is not seen as something of priority and importance <sup>(8)</sup>.

The intake of fruit and vegetable food groups, which are strong allies to health as protective factors for CVD, showed portion values below the recommended with 79% and 60%, respectively. Such foods are considered indispensable for a healthy diet, as they are sources of fiber, vitamins, minerals, and are associated with the reduction of blood pressure, blood glucose, and lipid levels <sup>(12)</sup>. Despite the importance of these food groups, other studies also point to inadequate consumption of fruits and vegetables by university students <sup>(13-14)</sup>. The study carried out in different universities in Chile, showed that 94.3% of students did not meet the ideal recommendation for the consumption of fruits, 72.3% for vegetables, and 97% for legumes <sup>(1)</sup>.

The consumption of legumes in this study was positive, reaching a number considered appropriate in 61% of the students, which is very important as they are the main sources of beneficial fibers for intestinal function, reducing the time it takes the food to be digested and eliminated. Different studies have described a positive result regarding the consumption of legumes among university students <sup>(5,14)</sup>. However, 39% of university students do not consume or consume less than recommended since all legumes are sources of protein, B vitamins, and minerals such as iron, zinc, calcium, and fibers, and should not be excluded from the food.

The inadequate consumption of carbohydrates reached 90% of university students, and they consumed more than the recommended amount of cakes, bread, cookies and less consumption of rice, corn, and other cereals, roots, and tubers. The results are consistent with the Brazilian Family Budget Survey, which showed an increase in the consumption of some foods rich in simple carbohydrates, such as cookies, cakes, and soft drinks, but there was a decrease in the consumption of complex carbohydrates in the general population <sup>(14)</sup>.

Carbohydrates are subdivided into complex carbohydrates (starches) such as cereals, tubers, and roots; and simple carbohydrates (simple or free sugars) such as table sugar, soft drinks, artificial juices, sweets, and treats in general. Healthy eating should include more complex carbohydrates as they are a source of energy and B vitamins and essential fatty acids that participate in the metabolism of the nervous system. Simple carbohydrates must be in the diet in very small quantities since they are only sources of energy and their excessive consumption is related to the increased risk of obesity, dental caries, and other CNCs <sup>(11)</sup>.

The results were not satisfactory in the intake of meat, eggs, and fish. There was evidence of consumption beyond that recommended for meat and eggs and consumption below that recommended for fish. The study corroborates these findings <sup>(14)</sup> and demonstrated a high consumption of meat and eggs in this population.

Red meats are excellent sources of high-quality protein and have a high content of many micronutrients, especially iron, zinc, and vitamin B12. However, they tend to be rich in fats in general, especially saturated fats that when consumed in excess, increase the risk of CVD and several other chronic diseases. Eggs are rich in high-quality proteins, minerals, and vitamins, such as those of the B complex, components of a healthy diet, as long as they are consumed in moderation, according to the guidance given for all foods of animal origin. Fish are rich in high-quality protein, contain vitamins and minerals, and have less saturated fat content and a high proportion of healthy fats (unsaturated fats). For so many qualities, its consumption is recommended at least twice or more per week <sup>(11)</sup>.

Regarding milk consumption, 48% of students reported consuming one or less than a glass of milk per day. This is a worrying fact since this food group is an important source of vitamins and minerals, mainly calcium, and offers proteins of excellent biological value, especially when the population studied already has low consumption of fruits and vegetables. The whole milk prevailed as the type of milk used in those who consume it. The types and quantities of these foods must be suitable for different stages of life. Milk and dairy products should preferably be skimmed for adults, as it contains less fat and the same amount of calcium, and whole for children, adolescents, and pregnant women <sup>(15-16)</sup>.



The high consumption of fried foods, sweets, and soft drinks observed in this study was evidenced in other previous studies <sup>(8,13-17)</sup>. The consumption of these foods in the last decades has increased a lot to the detriment of the consumption of basic natural foods that have been substituted by processed foods due to the contemporary way of life, besides presenting high energy density, being rich in sugar, sodium, and fats, favoring the increase in obesity and associated diseases <sup>(18)</sup>.

The result was satisfactory in the water consumption since drinking water daily and in the right proportion is essential for maintaining life, and the recommended amount is extremely simple: the amount that our body (or our thirst) asks for <sup>(11)</sup>.

Regarding the eating habits described by university students, more than 50% of them remove the apparent fat from the meat, which is considered a healthy habit. The recommendation is to give preference to lean meats, which contain low-fat content, and to remove the apparent fat from meat before consumption, minimizing the risk of developing heart disease <sup>(16)</sup>.

The inadequate habit of adding more salt to food when already served on the dish was reported by 83% of the students in this study. This result is consistent with Analysis of Personal Food Consumption in Brazil <sup>(14)</sup>, in which a proportion of individuals with sodium intake above the safe level was observed, 89% of men and 70% of women for the age group of 19-59 years old. The data are worrisome since sodium is considered an important marker of food quality. Daily salt consumption should be a maximum of 5g/day <sup>(16)</sup>. This amount is sufficient to meet the needs of iodine-essential for human development and growth. Table salt (sodium chloride) is composed of 40% sodium which, when consumed in excess, is an important cause of hypertension <sup>(19)</sup>. In a study carried out with university students, they found results with similarity and divergence in which 66.45% of the students remove the apparent fat from the meat, and 75.48% do not add salt to meals <sup>(20)</sup>.

The concern about high salt intake has become a subject discussed worldwide. According to the WHO, looking for measures to reduce salt intake is one of the main ways for countries to improve the health status of the population, especially when considering that reducing their intake is the most cost-effective measure to decrease CVD mortality. About 2.5 million deaths

could be prevented if salt consumption were reduced to less than 5g per day, as recommended, <sup>(21)</sup>.

Regarding meals, more than 50% of students eat the three main meals (breakfast, lunch, and dinner), and a reasonable number of students consume intermediate snacks. Results consistent with the recommended advising that about 90% of the total calories consumed throughout the day come from the three main meals, breakfast, lunch, and dinner, highlight the importance of not neglecting these meals and interspersed with small snacks <sup>(11)</sup>. However, the study showed that it is common for university students to neglect some of the main meals and have snacks between them, usually consuming foods with a low nutrient density, such as snacks or sandwiches, sold in snack bars <sup>(8)</sup>.

The lack of time for small snacks, the unavailability of healthy foods, and the absence of the habit of taking food from home to work are some of the most frequent causes of dietary errors related to the fractionation of meals. Many studies show that a fractional diet throughout the day helps to reduce hunger and avoids compensation in the following meals, pointing to an inverse relationship between body weight and adiposity and the frequency of meals <sup>(22)</sup>.

Vegetable oil was the type of fat used for cooking by most students, a result considered positive since it is recommended to give preference to vegetable oils and olive oil. In this study, the daily amount used was not investigated, being ideal for a portion of the group of oils and fats <sup>(16)</sup>. In another study, vegetable oil was used by most students (75.48%) <sup>(20)</sup>.

Oils are of significant importance in human nutrition since they are rich in unsaturated fatty acids (oleic acid, linoleic and alpha-linoleic acid) and, low in saturated fatty acids, being carriers of fat-soluble vitamins and energy suppliers. The care is due to the amount used and the frying that leads to physical-chemical changes in the oils, which can cause the loss of nutritional value and form harmful compounds for the organism <sup>(23)</sup>. The high consumption of fatty acids and trans fats present in fried foods can lead to dyslipidemia, obesity, and increase the risk of CVD <sup>(11)</sup>.

Regarding the labels of processed foods, only 8% of the students reported always or usually reading the nutritional information before buying them. The information on the labels can be very useful in choosing healthier foods, and one way to encourage consultation is to promote

understanding of the information, and the use of labels as material in teaching activities in classrooms, health centers, community centers, and community centers. Health and education professionals should look for opportunities to promote groups for this discussion <sup>(16)</sup>.

In this study, inadequate habits were revealed in various food groups among university students and in other similar studies. These results may be associated with changing the environment, which implies responsibility, socialization, new tasks, excessive activities, prioritization of academic performance, among other factors that translates into an adaptation process experienced by the individual at the university. These inappropriate habits may remain after graduation, being a serious cardiovascular risk factor in these students, causing harmful health consequences.

The impossibility of returning to the classroom, to collect data from academics who were not present at the first moment or the team available to capture those who were in the mandatory curricular internship are limiting factors of the study. Also, the absence of collecting personal characteristics that could be related to eating habits.

## CONCLUSION

We conclude that the university students analyzed in this study had inadequate eating habits in most of the evaluated parameters. The data allowed to identify some situations that are cardiovascular risk factors such as low consumption of fish, fruits, vegetables, and legumes, excessive consumption of simple carbohydrates, meat, whole milk in detriment to the low-fat content, and the excess consumption of salt.

The importance and the need for preventive action and health promotion with students by universities are evidenced, with actions that prioritize an awareness that without preventive habits such as adequate food with one that does not get a risk reduction and future health consequences, providing a better quality of life, including better performance in studies. It is necessary to develop strategies that result in trainees aware of the importance of adopting preventive measures throughout life, for the maintenance of health and also gaining more disseminators of healthy habits for the population.

## REFERENCES

- 1 - Vera V, Croveto M, Valladares M, Oñate G, Fernández M, Espinoza V, et al. Consumo de frutas, verduras y legumbres en universitarios chilenos. *Rev Chil Nutr.* 2019;46(4):436-42. DOI: [10.4067/S0717-75182019000400436](https://doi.org/10.4067/S0717-75182019000400436)
- 2 - Siqueira ASE, Siqueira-Filho AG, Land MGP. Análise do impacto econômico das doenças cardiovasculares nos últimos cinco anos no Brasil. *Arq Bras Cardiol.* 2017;109(1):39-46. DOI: [10.5935/abc.20170068](https://doi.org/10.5935/abc.20170068)
- 3 - Santos JS, Patricio ACFA, Alves KL, Albuquerque KF, Pereira IL, Félix IVB. Avaliação para riscos cardiovasculares em estudantes de enfermagem. *Rev Min Enferm.* 2015;19(4):842-7. DOI: [10.5935/1415-2762.20150065](https://doi.org/10.5935/1415-2762.20150065)
- 4 - Ministério da Saúde (Brasil). *Vigitel Brasil 2017 Saúde Suplementar: Vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico.* Brasília: Ministério da Saúde; 2017.
- 5 - Mier GM, Estevan MCL, Magdalena CSR, Diego JP, Herreros PV. Evaluación del consumo de alimentos de una población de estudiantes universitarios y su relación con el perfil académico. *Nutr Hosp.* 2017;34(1):134-43. DOI: [10.20960/nh.989](https://doi.org/10.20960/nh.989)
- 6 - Monteiro CA, Cannon G, Levy RB, Moubarac J-C, Jaime P, Martins AP, et al. NOVA. A estrela brilha. *World Nutrition 2016* [citado em 14 abr 2020]; 7(1-3):28-40. Acesso em: <http://archive.wphna.org/wp-content/uploads/2016/02/WN-2016-7-1-3-28-40-Monteiro-Cannon-Levy-et-al-NOVA-Portuguese.pdf>
- 7 - Rosa PBZ, Giusti L, Ramos M. Educação alimentar e nutricional com universitários residentes de moradia estudantil. *Ciênc Saúde* 2016;9(1):15-20. DOI: [10.15448/1983-652X.2016.1.20852](https://doi.org/10.15448/1983-652X.2016.1.20852)
- 8 - Bernardo GL, Jomori MM, Fernandes AC, Proença RPC. Food intake of university students. *Rev Nutr.* 2017; 30(6):847-65. DOI: [10.1590/1678-98652017000600016](https://doi.org/10.1590/1678-98652017000600016)
- 9 - Instituto Brasileiro de Geografia e Estatística. Estimativas da população residente para os municípios e para as Unidades da Federação brasileiros com data de referência em 1º de julho

- de 2017. Rio de Janeiro: IBGE; 2017 [citado em 16 out 2019]. Acesso em: <https://biblioteca.ibge.gov.br/visualizacao/livros/li100923.pdf>
- 10 - Associação Brasileira de Empresas de Pesquisa. Critério de Classificação Econômica Brasil. São Paulo: ABEP; 2014 [citado em 8 dez 2020]. Acesso em: <http://www.abep.org/criterio-brasil>
- 11 - Ministério da Saúde (Brasil). Secretaria de Atenção à Saúde. Guia alimentar para a população brasileira: Promovendo a alimentação saudável. 2. ed. Brasília: Ministério da Saúde; 2014.
- 12 - Silva HS, Silva LIA, Silva NBP, Prado BG. Consumo de fibras alimentares por universitários de Várzea Grande - Mato Grosso. J Health Biol Sci. 2019 [citado em 14 abr 2020]; 7(3):248-52. Acesso em: <http://docs.bvsalud.org/biblioref/2019/07/1005633/2446-9852-4-pb.pdf>
- 13 - Perez PMP, Castro IRR, Franco AS, Bandoni DH, Wolkoff DB. Práticas alimentares de estudantes cotistas e não cotistas de uma universidade pública brasileira. Ciênc Saúde Coletiv 2016;21(2):531-42. DOI: [10.1590/1413-81232015212.01732015](https://doi.org/10.1590/1413-81232015212.01732015)
- 14 - Carneiro MNL, Lima PS, Marinho LM, Souza MAM. Estado nutricional de estudantes associados aos hábitos alimentares. Rev Soc Bras Clín Méd. 2016 [citado em 16 out 2019]; 14(2):84-8. Acesso em: <http://docs.bvsalud.org/biblioref/2016/08/1248/14284.pdf>
- 15 - Instituto Brasileiro de Geografia e Estatística. Pesquisa de orçamentos familiares 2008-2009: Análise do consumo alimentar pessoal no Brasil. Rio de Janeiro: IBGE; 2011.
- 16 - Ministério da Saúde (Brasil). Guia alimentar para a população brasileira: Promovendo a alimentação saudável. Brasília: Ministério da Saúde; 2008.
- 17 - Busato MA, Pedrolo C, Gallina LS, Rosa L. Ambiente e alimentação saudável: Percepções e práticas de estudantes universitários. Sem, Cienc Biol Saúde 2015;36(2):75-84. DOI: [10.5433/1679-0367.2015v36n2p75](https://doi.org/10.5433/1679-0367.2015v36n2p75)
- 18 - Pastor R, Bibiloni MM, Tur MJA. Patrones de consumo de alimentos en estudiantes universitarios de Zamora. Nutr Hosp. 2017;34(6):1424-31. DOI: [10.20960/nh.1147](https://doi.org/10.20960/nh.1147)
- 19 - Bucharles SGE, Wallbach KKS, Moraes TP, Pecoits-Filho R. Hipertensão em pacientes em diálise: Diagnóstico, mecanismos e tratamento. J Bras Nefrol. 2019; 41(3):400-11. DOI: [10.1590/2175-8239-jbn-2018-0155](https://doi.org/10.1590/2175-8239-jbn-2018-0155)
- 20 - Mendes MLM, Silva FR, Messias CMBO, Carvalho PGS, Silva TFA. Hábitos alimentares e atividade física de universitários da área de saúde do município de Petrolina-PE. Tempus 2016 [citado em 16 out 2019]; 10(2):205-17. Acesso em: <http://www.tempusactas.unb.br/index.php/tempus/article/view/1669>
- 21 - Organização Mundial da Saúde (OMS). Folha informativa – Alimentação saudável [citado em 29 out 2020]. Acesso em: [https://www.paho.org/bra/index.php?option=com\\_joomlabook&view=topic&id=227](https://www.paho.org/bra/index.php?option=com_joomlabook&view=topic&id=227)
- 22 - Generoso Junior AC, Silveira JQ. A influência do acompanhamento nutricional para a redução de gordura corporal e aumento de massa magra em mulheres praticantes de treinamento funcional. RBNE 2017 [citado em 14 abr 2020]; 11(64):485-93. Acesso em: <http://www.rbne.com.br/index.php/rbne/article/view/839>
- 23 - Jorge N, Pietro TA, Luzia DMM, Veronezi CM. Caracterização fitoquímica do óleo de soja adicionado de extrato de Portulaca oleracea L. Rev Ceres 2018;65(1):1-6. DOI: [10.1590/0034-737x201865010001](https://doi.org/10.1590/0034-737x201865010001)

**Nota:** This study is the result of a larger research project entitled "Prevalence of cardiovascular risk factors in university students" and the Final Paper for a course entitled "Evaluation of eating habits in university students from Coxim-MS" of the undergraduate Nursing course at the University Federal of Mato Grosso do Sul, Três Lagoas campus.

**Recebido em:** 20/04/2020

**Aprovado em:** 14/10/2020