


## Eating behavior and its importance for our body

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### ABSTRACT

Proper nutrition is essential to ensure a healthy life and a good quality of life. However, many adolescents do not have enough knowledge on the subject and do not adopt a balanced diet. Evidence indicates that unhealthy eating habits are common in this age group, characterized by low consumption of foods such as milk, dairy products, fruits, vegetables and high intake of foods rich in energy, saturated fats, sugars, sodium, such as sugary drinks, sweets and cookies. These practices, associated with a sedentary lifestyle, are risk factors for the development of chronic non-communicable diseases such as overweight, obesity, systemic arterial hypertension, diabetes mellitus, cardiovascular diseases and risk behaviors for eating disorders, which involve a great impact on public health. Thus, in order to avoid health impasses, the importance of food education is highlighted, which is essential for the promotion of health among adolescents in high school. During adolescence, significant changes occur in physical, emotional, and cognitive development, and proper nutrition is essential to ensure healthy growth and development. In view of this situation and considering the great responsibility of the school as an agent of social formation and consequent transformation, the research was developed among students aged between 15 and 19 years. The objective of the research was to understand the eating behavior of these students and verify if they have knowledge about the importance of ingesting vital sources of nutrients. For this, a qualitative research was carried out, through questionnaires, in three public schools in the states of Minas Gerais and Bahia. The data were analyzed and it was possible to observe that the eating patterns and the level of knowledge of the students about healthy eating are insufficient, since they do not worry about having a balanced, nutritious and healthy diet.

**Keywords:** Healthy eating, Food education, Eating behavior.

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## INTRODUCTION

An appropriate diet, capable of ensuring the maintenance of health, is only possible through a healthy diet. Diet is everything a person ingests, regardless of their goal. However, the term has been used only to refer to weight loss, which has become an obsession for many people. Garcia (1997) states that, "it is no longer without guilt that we sit at the table to enjoy food".

A healthy diet, based on nutritional needs, in general, has characteristics such as no need to lose or gain weight, does not need to limit components due to disorders, risk or age and is suitable for people who consume energy through daily activities or physical exercise.

SILVA *et al.* (2012) comments that:

Adequate food and nutrition are essential requirements for confirming the full potential for growth and development with quality of life, as well as for the prevention of deficiency diseases and obesity and associated comorbidities, in addition to being an indispensable human right for the construction of citizenship. (SILVA *et al.*, 2012, p.89).

Making good food choices allows you to maintain your ideal weight, desirable body composition, perform daily physical and mental activities, and reduce the risk of disease or disability. In this way, a balanced diet should become a lifestyle habit that aims at health and well-being in the short and long term. To achieve these objectives, it is necessary to adapt energy and nutritional consumption. Carbohydrates, **lipids and proteins** are macronutrients present in food to provide energy used for the vital functions of the body such as: breathing, circulation, protein synthesis, cell renewal and physical work.

According to the Dietary Guidelines for Americans 2020-2025, 9th edition, "A healthy diet pattern is one that includes nutrient-dense foods and beverages from all food groups, consumed in the recommended amounts and within caloric limits." According to these guidelines, the main elements that make up this standard include: vegetables, fruits, grains, dairy products, proteins and oils and the consumption of these foods in adequate amounts prevents obesity, a disease caused by excess food, as well as malnutrition, when consumption is insufficient. Both situations are extreme and harmful and need to be observed and treated assertively.

Generally, nutrients are divided into two classes: macronutrients, which must be ingested daily and in larger quantities (proteins, lipids, carbohydrates, minerals and water are part of this group) and micronutrients, formed by vitamins and certain minerals that are needed in small quantities. Araújo *et al.*, (2021) point out that:

Macronutrients are macromolecules in plant and animal structures that can be digested, absorbed, and used by another organism as energy sources. They are divided into three classes - carbohydrates, fats and proteins, necessary to maintain cellular and body integrity. (...). Micronutrients, on the other hand, have a relevant participation in the maintenance of the body's homeostasis, cell proliferation and differentiation, immune function, protection against oxidative stress, in addition to playing an important role in the participation of the



metabolism of many other nutrients. The deficiency of these can compromise such functions and trigger or exacerbate metabolic disorders. (ARAÚJO et al., 2021, p.4520 ).

Coming from food, carbohydrates, proteins and lipids are the main energy substrates for the body. Starch, sucrose, lactose, fructose and glucose are the most present carbohydrates in the human diet. Starch is the storage form of carbohydrate present in vegetables, being the main carbohydrate in the diet.

According to Pomin and Mourão (2006), "carbohydrates are the 'fuels of life'. They store energy in living beings, in the form of starch and glycogen (...), and release it for metabolic reactions when they are degraded."

After ingesting the carbohydrate, the "breakdown" into smaller structures called monosaccharides occurs, such a reaction aims to facilitate its absorption by the body. The main monosaccharide produced is glucose, which is used to provide energy for the different functions of the body. Glucose can also be stored in places such as the liver and muscles in the form of glycogen. The liver has a glycogen storage limit, about 5% to 6% (GUYTON, HALL 2021), which causes it to transform the surplus amount into lipid, by the following process: in the process of glycolysis (glucose breakdown) there is the formation of pyruvate that is converted into acetylcoenzyme A (acetyl-CoA), later carboxylated by acetyl-CoA carboxylase, forming malonyl-CoA, being the first stage of fatty acid synthesis, joining glycerol, a product of glycerol phosphate from glucose, to originate triglyceride. This entire process is mediated by the hormone insulin, which promotes the entry of glucose into the tissues, in addition to inhibiting the action of the hormone-sensitive enzyme lipase, which promotes the hydrolysis of triglycerides.

Regarding the importance of carbohydrates, Pomin and Mourão (2006) point out:

(...) Carbohydrates don't just have an energy function. They are also present on the outer surface of the cell membrane. In this case, they can be glycoproteins (when bound to a protein), glycolipids (if bound to a lipid) or proteoglycans (when they are in the form of glycosaminoglycan chains – a type of polysaccharide – joined to a protein). These conjugated forms present in membranes act as receptors and signals, interacting with molecules and other cells. (POMIN and MOURÃO, 2006. p. 27).

Formed by amino acids joined in linear chains, proteins after ingestion are broken down into the amino acids that constitute them so that they are absorbed into the blood. Among the amino acids are the essential and non-essential ones. Essential amino acids are those that must be present in the diet, as the body cannot produce them. Among the essential amino acids are lysine, isoleucine, leucine, threonine, valine, tryptophan, phenylalanine, methionine, and histidine. A very typical Brazilian combination that is a source of essential amino acids is the famous "Rice and beans" that provides the body with methionine and lysine, as well as other important nutrients.



CARVALHO et al. (2012), citing COSTA et al, (2006) and WALTER et. al., (2008) considers that "the mixture of rice and beans represents an excellent nutritional combination, providing energy and essential amino acids required in a healthy diet, in addition to providing considerable amounts of vitamins, minerals and fiber".

Non-essential amino acids are also equally important for the body, however, they can be synthesized. Each gram of protein can provide, as well as carbohydrates, up to 4 kcal.

It is important to note that if protein intake is low or if some essential amino acid is missing from the diet, the body will not be able to produce the proteins necessary for its proper functioning and unused amino acids will be excreted, which is called negative nitrogen balance. If this situation persists for too long, bodily function will be diminished. Silva et al. (2014) state that the intake of adequate levels of protein contributes to growth, bone maintenance and the prevention of osteoporosis and its deficiency or excess can be deleterious. Morais and Burgos (2007) warn that "the increase in the diet of 50g of protein increases approximately 1.6mmol in calcium excretion, being considered a regulator of urinary calcium excretion, more important than the intake of the mineral itself."

Regarding fats, they are lipids formed by triglycerides. Its digestion is more complex than that of carbohydrates and proteins, as they are not very soluble in water, so when you eat a meal that is very rich in fats, you feel a heavy stomach for longer. After digestion, fats are transformed into triglycerides, which are "packaged" in chylomicrons, and are transported throughout the body, in addition to being transported by very low-density lipoproteins (VLDL), low-density lipoproteins (LDL) and high-density lipoproteins (HDL) according to Nelson and Cox (2019). VLDL carry triglycerides and cholesterol from the blood to the tissues, a function identical to LDL, however, LDL is a product of VLDL from the action of the lipase enzyme, and can deposit fat substrates in the tissues, which can obstruct blood vessels, inflame the endothelium and cause atherosclerosis (formation of atheromas). It is worth remembering that the accumulation of fat in the liver causes hepatic steatosis (fatty liver disease), and inflammation and, consequently, edema may occur, which means evolution to hepatomegaly. It is also in the form of triglycerides that are stored in adipose tissue, as a form of energy storage, because, depending on the body's needs, they can be transformed into glucose through the process of gluconeogenesis. Each gram of fat ingested can provide up to 9kcal, more than twice as much as carbohydrates and proteins. For this reason, its intake must be controlled since, as stated by Lima and Glaner (2006), "the lipid profile changes asymptotically and can remain so for long periods, which can lead to terrible consequences such as: increased blood pressure, heart attacks, strokes, among others".

The vast majority of fatty acids (fats) can be synthesized by the body from carbohydrates and proteins, however, there is a select group that must be obtained through food, which are called



essential fatty acids. This is the case of the famous omega-3 (alpha-linolenic acid) and omega-6 (linoleic acid), nomenclatures with different numbers due to the number of carbon that appears at the first unsaturation in the carbon chain, which perform important immunological and anti-inflammatory functions of the body, differentiating in the quantity of unsaturations in the chain, omega-3 contains three and omega-6 has two. It is worth mentioning that omega-6 can be converted into arachidonic acid, a precursor of eicosanoids, which are responsible for inflammatory responses in the human body, while omega-3 inhibits this conversion, concluding that alpha-linolenic acid is more anti-inflammatory compared to linoleic acid, according to Nelson and Cox (2019).

Regarding the importance of fatty acids, Martin et al., (2006, p. 762) state:

Lipid components, especially fatty acids, are present in the most diverse forms of life, playing important roles in the structure of cell membranes and metabolic processes. In humans, linoleic acid (18:2n-6, AL) and alpha-linolenic acid (18:3n-3, AAL) are necessary to maintain cell membranes, brain functions, and the transmission of nerve impulses under normal conditions. These fatty acids also participate in the transfer of atmospheric oxygen to the blood plasma, in the synthesis of hemoglobin and in cell division. (MARTIN et al., 2006, p.762).

Thus, the balance between all the elements of food is important to maintain a healthy life. Therefore, it is necessary to consume foods from all groups and not reproduce discourses that boast or demonize certain foods.

## **THEORETICAL FRAMEWORK**

According to the World Health Organization (WHO), adolescence is the phase that comprises individuals between 10 and 19 years old, it is a period marked by intense transformations influenced by family practices, social and cultural values, socioeconomic conditions, experiences and knowledge of the individual. It is worth remembering that the habits and learning of this moment have repercussions on behavior in many aspects of future life and that this period is extremely important for adolescents to choose a healthy lifestyle.

According to Botelho and Lameiras (2018):

Food and nutrition education can become effectively useful for individuals when it enables the awakening of critical awareness and autonomy to act in terms of eating practices. Adolescent health education is an important area of concern because this stage of development represents a time of experimentation and the beginning of patterns for adult behavior. A balanced diet during adolescence satisfies the increase in nutritional needs during this period, and establishes and reinforces eating habits for life. (BOTELHO and LAMEIRAS, 2018, p.32).

There is evidence, among Brazilians in this age group, of unhealthy eating habits, characterized by low consumption of foods such as milk, dairy products, fruits, vegetables and high intake of foods rich in energy, saturated fats, sugars, sodium, such as sugary drinks, sweets and



cookies. Such practices, associated with a sedentary lifestyle, correspond to the main factors responsible for the expression of the current epidemiological picture of chronic non-communicable diseases, such as overweight, obesity, systemic arterial hypertension, diabetes mellitus, cardiovascular diseases and risk behaviors for eating disorders, which involve a great impact on public health. (GUO et al., 2004; TRAEBERT et al., 2004; WORLD HEALTH ORGANIZATION, 2002; STEWART; KLEIHUES, 2003; MALTA et al., 2009; BERENSON, 2012)

Thus, monitoring the quality of foods consumed in this phase becomes important because of the high prevalence of inadequate nutrient intake in this Brazilian population. This fact is particularly worrisome, because in adolescence nutritional needs are increased due to the growth phase and the bodily transformations inherent to puberty.

### FOOD AND SOCIAL ASPECTS

Dietary balance is the only way to ensure the proper functioning of the body's vital functions. When ingested incorrectly, carbohydrates, proteins, and lipids can cause serious health risks. On the other hand, the use of highly restrictive diets has been widely spread on social media. The search for a standard of beauty and the perfect body has been the object of desire of many, including teenagers who, immersed in the digital age and without the proper maturity, find themselves faced with exuberant and unattainable bodies. Social networks print a body image far removed from real bodies and, to feel like they fit in, many teenagers give up their health and adhere to highly restrictive diets. According to Soihet and Silva (2019):

It is common sense that the current socio-cultural model explains the high rates of image disorders, body dissatisfaction and the increase in the rates of eating disorders in society. Imposed beauty standards overemphasize thinness, and the media has become one of the most powerful vehicles of sociocultural ideals. (SOIHET and SILVA, 2019, p. 55)

It is worth remembering that controlling food intake through restrictive diets and making this behavior chronic due to sociocultural pressure, which imposes increasingly thin body standards, are attitudes that possibly trigger eating disorders, such as binge eating and consequent obesity, which presents itself as a disease that is difficult to control, with high percentages of therapeutic failures and recurrences, it can have serious organic and psychosocial repercussions, especially in the most severe forms.

Also according to Soihet and Silva (2019):

The adoption of restrictive diets can bring psychological and metabolic harm and also the emergence of eating disorders. Dieters are compulsively concerned about the foods they consume, are more vulnerable to eating uncontrollably after a long time of restriction, and tend to have emotional problems such as anxiety and depression. Also, there is a huge relationship between individuals who restrict their eating and individuals diagnosed with eating disorders. (SOIHET and SILVA, 2019, p. 56)



Assuming that the body needs energy to function, and that this energy comes in the form of food, even in resting stages, it needs these calories. This phenomenon, called basal metabolism, is the minimum amount of energy needed to maintain vital functions even at rest. By adhering to a restrictive diet, the body enters a state of alert, and understands that food restriction as an aggression. Consequently, to protect itself, appetite increases. If the restriction continues, the metabolism slows down in order to store energy. This cycle affects not only physical health but also emotional health, as one of the major consequences is the non-maintenance of the diet and increased food consumption.

A healthy food education is essential to maintain the health and well-being of the body. In this sense, it seeks to understand how high school students eat and if they are aware of the importance of ingesting vital sources of nutrients.

There are several studies that address the topic of eating among adolescents. One of the main concerns is the high consumption of processed foods that are high in sugar, fats, and salt, which can lead to the development of chronic diseases such as obesity, diabetes, and hypertension.

In addition, many adolescents may have limited knowledge about nutrition and the importance of a balanced diet. They may not be aware of which nutrients are essential for health and how to get them from food.

This research arose from the discussions during the classes of the discipline "Chemistry 3: Chemistry of life, environments and materials" of the Professional Master's Degree in Chemistry at UESB, about the biomolecules that led to the questioning of the eating habits of high school students, their knowledge about biomolecules (their characteristics and functions) and the realization of diets and how they would carry them out.

## **METHODOLOGY / MATERIALS AND METHODS**

The methodology used in the research was an exploratory study in which a real proximity to the object that was being studied was aimed at, aiming to obtain greater knowledge about the subject in a specific context.

To employ this technique in this work, a priori, stages of research construction were developed. The first stage was planning, in which the methodological path to be traced was defined; The second stage was the preparation stage, where the population and the location of the research were defined and questionnaires were prepared for data collection; The third stage was the collection stage, in which the previously prepared questionnaires were applied in order to obtain qualitative data for the research; And the fourth and last stage was the analysis, in which there was the interpretation and decoding of the collected data and the inferences arising from the investigation.





According to Yin (2015), the exploratory study as a research methodology in teaching can help to understand social, educational, psychological and other phenomena, allowing the researcher to retain a holistic and real perspective of the case being studied. The author reinforces that this methodology is also suitable for exploratory studies, in which it is sought to understand aspects related to a specific issue of a certain group in a certain context and/or locality in order to verify a hypothesis, and due to this property that the exploratory case study proved to be the most appropriate research technique for the construction of this work.

The research presents a qualitative approach, which for Denzin and Lincoln (2006), is considered as an opportunity to diagnose and contribute, in its entirety and effectively. Also according to the qualitative research, the different points of view of the participants are considered, as well as the way they deal with issues dealt with in the investigative process. The research was developed in the Integrated Education Complex Schools, located in the municipality of Caetité, in the interior of Bahia, in the Federal Institute of Bahia, located in the municipality of Euclides da Cunha, in the interior of Bahia and the João Bernardino de Souza State School located in the municipality of Novorizonte, in the interior of Minas Gerais.

The study had as a population, two hundred and two students belonging to the first, second and third year of high school. As a method of data collection, a questionnaire was applied that was duly answered by the research participants, randomly, without the need for identification, thus ensuring anonymity and confidentiality.

According to Gil (2010), the questionnaire can be defined as: "an investigation technique composed of a more or less high number of questions presented in writing to people, with the objective of knowing opinions, beliefs, feelings, interests, expectations, situations experienced, etc."

Thus, the qualitative method deals with the universe of meanings, motives, aspirations, beliefs, values and also attitudes in order to understand the set of human phenomena (MINAYO, 2014).

The questions used in the questionnaire are presented below:

1) How old are you? / 2) Do you go on any kind of diet? Why? / 3) Do you know or have you heard about organic substances (Carbohydrates, Lipids and Proteins)? Comment / 4) Are organic substances (Carbohydrates, Lipids and Proteins) part of your diet? / 5) Have you ever excluded some type of food from your diet? Which?

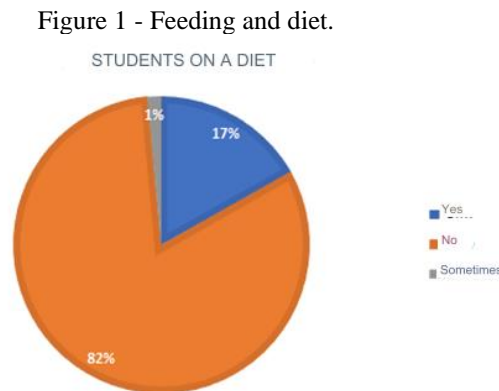
## **RESULTS / DISCUSSION**

The questionnaire was answered individually in the classroom and the answers were described and analyzed without describing the place where it was applied. Each of the issues was analyzed and discussed separately.



Regarding age, the participants are in the age group of 15 to 19 years, all enrolled in public high school.

When asked about daily eating, more specifically about dieting, the results indicate that 82% of the adolescents said they did not restrict any food in their diet, 17% said they went on a diet and 1% of the students interviewed said they sometimes went on a diet. These data can be seen in Figure 1.



Source: Survey data, 2023.

Some answers from the students interviewed:

"I don't go on a diet because I don't have to. "

"No. Because I eat everything and I'm healthy. "

"No. Inability to stay focused on a diet. "

"No. I think it is necessary to be accompanied by a professional. "

Bittar and Soares (2020) assert that

Nowadays, the media exerts great power in the construction of body image and in the formation of aesthetic standards, which affect adolescents in their phase of vulnerability. Considering these characteristics and others related to age, young people end up modifying their eating patterns, becoming vulnerable to the development of eating disorders. (BITTAR and SOARES, 2020, p. 291)

The result of the survey indicates that most of the adolescents interviewed do not restrict any food in their diet. This can be positive if adolescents are consuming healthy foods in adequate amounts and without excesses, which can contribute to good physical and mental health.

Segundo Lopes et al., (2021):

In this context, monitoring the quality of foods consumed in this phase is important because of the high prevalence of inadequate nutrient intake in this Brazilian population. This fact is particularly worrisome, because in adolescence nutritional needs are increased due to the growth spurt and bodily transformations inherent to puberty. (LOPES et al., 2021, p.302).

However, it is important to note that dietary restriction may be necessary in some situations, such as in cases of chronic diseases or food allergies. Therefore, it is essential that adolescents are aware of the importance of a healthy and balanced diet, and that they seek guidance from a nutrition professional if they have questions or need any dietary restrictions.

Vale et al., (2011) in a study on the eating behavior of adolescents, point out that

The high number of adolescents performing inappropriate eating practices highlights the attention that this issue requires from the academic community, especially in the field of public health, reaffirming it as an emerging issue in the Brazilian health scenario (...) Eating and restricting food are revealed as harmful strategies to deal with conflict situations and their consequent aversive emotional states. (VALE et al., 2011, p.127).

Therefore, the importance of professional guidance in case of necessary dietary restrictions is emphasized, thus preventing a diet deficient in fundamental nutrients from becoming a habit.

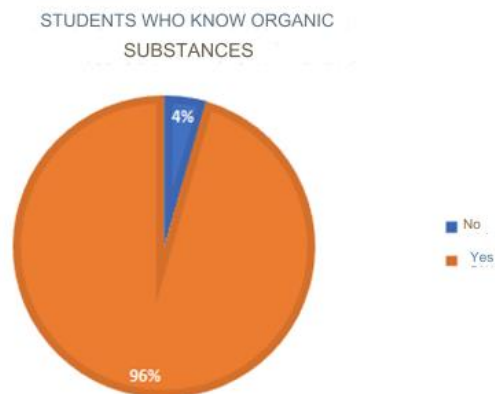
Nutritional choices and the necessary substitutions must consider several aspects, Canesqui and Garcia (2005) emphasize that these alternatives must maintain a range of food possibilities.

It is precisely by seeking to offer alternatives framed within available resources, and preserving the characteristics of habitual life defined by the subject, that we suppose we can get closer to desirable changes in diet. (CANESQUI and GARCIA, 2005, p. 224)

Among students who go on diets (17%), it is interesting to note that the justifications range from the need to lose weight to the search to gain muscle mass or help an obese family member. For these reasons and many others, the importance of guidance on a balanced diet and the need for professional monitoring capable of ensuring that diets are adequate and healthy, and that they do not harm physical and mental health, are emphasized.

When asked if they have knowledge about organic substances, 96% say they have heard of the nutritional groups, and some of these said they know the functions and sources of food. Only 4% of the students stated that they had never heard about the vital nutrients, as illustrated in figure 2.

Figure 2 - Knowledge about organic substances.



Source: Survey data, 2023.

However, it is important to note that knowledge about nutritional groups and nutrients does not necessarily guarantee a healthy and balanced diet. It is possible that some adolescents are aware of nutrients, but do not know how to apply them in their daily diet, or even that they have inadequate eating habits even with the knowledge acquired. According to the Ministry of Health (2022), in 2022, until the beginning of October, the Unified Health System (SUS) monitored more than 4.4 million adolescents between 10 and 19 years of age, according to the Food and Nutrition Surveillance System of the Ministry of Health. Of these, almost 1.4 million were diagnosed with overweight, obesity or severe obesity.

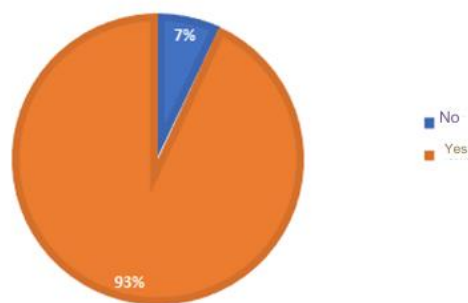
Therefore, it is essential that adolescents receive adequate guidance on healthy eating, including information on the importance of consuming varied foods in adequate quantities, and that they have access to resources and trained professionals to help them build healthy and sustainable eating habits.

According to Lopes et al., (2021):

The development of interventions to reduce inadequacies related to food consumption is a challenge for public policies to promote health in adolescence. Therefore, promoting healthy eating practices is a strategy to cope with food and nutritional problems in this age group. (LOPES et al., 2021, p.302).

When asked if organic substances are part of their diet, 93% say they are. Of these, 6.95% associate organic substances as natural, non-industrialized, without pesticides or even with supplements (pills, powder, tablet, capsule). And, 7% say that vital nutrients are not part of their diet, as shown in figure 3.

Figure 3 – Organic substances in the daily diet.  
STUDENTS WHO INGEST ORGANIC  
SUBSTANCES



Source: Survey data, 2023.

The result of the survey indicates that many adolescents interviewed say that organic substances are part of their diet, which is positive, as the nutrients contained in these foods are essential for maintaining health. According to Araújo et. al (2021) The intake of carbohydrates, fats,

and proteins is essential for maintaining cellular and body integrity, in addition to providing energy and playing a protective role in human health and biochemical processes in the body.

In addition, it is worrying that 7% of adolescents say that vital nutrients are not part of their diet. This lack of knowledge may indicate an inadequate and unbalanced diet, which can compromise the physical and mental health of these adolescents.

The last question of the questionnaire asked the students if they had already excluded any type of food from the diet and 57% of the students said that they do not refuse any type of food in the diet, according to the statements below:

"I eat everything. I have a good metabolism."

"But, I avoid exaggerations of Coca-Cola."

"I eat at the limit without exaggerating, because any food in excess is bad."

And 43% of students said they have already excluded foods from their diet. Example:

"Sweets."

"Carbohydrates, mass."

"Coca-cola."

"It excludes carbohydrates, because it is bad for health."

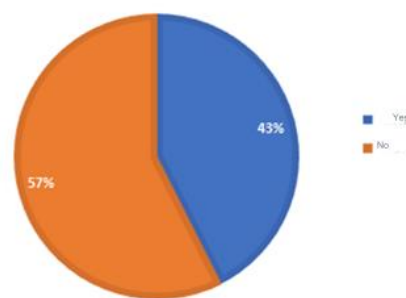
"It excludes foods for reasons of food intolerance."

"Fatty foods"

"Several industrialized foods due to allergy to food dyes."

The data can be seen in figure 4.

Figure 4 – *Exclusion of foods from the diet*  
STUDENTS WHO EXCLUDE FOODS FROM THEIR DIET.



Source: Survey data, 2023.

Interpreting the students' answers, it is possible to observe that most of them (57%) did not exclude any type of food from the diet. Some reported that they have a good metabolism and that they eat everything, but avoid exaggerations and any excess food. Others stated that they have no dietary restrictions. These data also demonstrate that these students are aware and adept at sustainable consumption, since the consumption of excess food is also treated by authors as contrary



to sustainability, since it exceeds the individual's needs, becoming waste (MARTINELLI, CAVALLI (2019)).

On the other hand, 43% of the students have already excluded some type of food from their diet. The reasons for this exclusion vary, from health issues and food intolerance to personal choice to avoid certain foods because they consider them harmful to health. Some examples cited include sweets, carbohydrates, "coca-cola", fatty foods, processed foods and food dyes.

According to the Ministry of Health (2014), there are many mechanisms to seduce and convince consumers, especially children and adolescents. The document alerts society to the fact that 2/3 of the television advertisements that deal with the issue of food highlight, advertise industrialized products, *fast foods*, ultra-processed foods, snacks, drinks and ready meals such as soft drinks, pizza, sausages, hamburgers and others.

It is important to remember that each person has their own nutritional needs and may have dietary restrictions for medical or personal reasons. The important thing is to maintain a balanced and healthy diet, which provides all the nutrients necessary for the proper functioning of the body.

Thus, in order to avoid health impasses, the importance of food education is highlighted, which is essential for the promotion of health among adolescents in high school. During adolescence, significant changes occur in physical, emotional, and cognitive development, and proper nutrition is essential to ensure healthy growth and development.

Adolescents need a balanced diet, rich in nutrients and vitamins, to meet the energy and nutritional needs of the growing body. In addition, proper nutrition can prevent chronic diseases such as obesity, diabetes, heart disease, and cancer.

Food education can help teens understand the importance of healthy eating and make conscious food choices. This includes learning about the nutrients needed by the body, how to read food labels, how to choose healthy foods at restaurants, and how to prepare healthy meals at home.

Therefore, it is important that food education is started early, preferably in childhood, and continues throughout life. However, adolescence is a crucial period for food education, as it is when eating habits can be established for life.

The school can play an important role in the food education of adolescents. Biology, chemistry, and physical education classes can include information about nutrition and healthy eating, and school canteens can offer healthy and nutritious food options. In addition, teachers can incorporate food education into other subjects.

Finally, food education is fundamental for the promotion of the health of adolescents in high school. It is important for adolescents to learn about nutrition and healthy eating to ensure proper growth and development, prevent chronic diseases, and establish healthy eating habits for life.



## FINAL CONSIDERATIONS

The diet of high school adolescents can vary greatly, but in general, many adolescents do not consume a balanced and healthy diet. They consume foods high in sugar, fat, and salt in excess, while not consuming sufficient amounts of fruits, vegetables, and whole grains.

As for the knowledge about organic substances, it can be noted that it varies according to the education they have received. Some adolescents learned about organic substances in biology or chemistry classes, or even at home with their parents, but it is also noticed that other students did not have this knowledge. Food education both at school and at home is important for students to learn how to eat healthy foods and make conscious food choices.

It is important to remember that food education should include information about the different nutrients and organic substances found in food, so that adolescents can make use of a balanced and healthy diet. Understanding nutrients and food chemistry can help teens understand how food can affect overall health and well-being. And to improve the consumption of healthy foods by adolescents, schools, in partnership with families, should develop strategies to encourage changes in eating habits and promote food and nutrition education for the entire school community.



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