



Student name: Trinidad Solórzano Diego Alexander

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Teacher's name: Arceola Jimenez Eduardo Enrique

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Introduction

Nutrition is a fundamental science that studies the relationship between food and the body's functioning. It helps us understand how nutrients influence growth, development, energy, and disease prevention. Understanding nutrition allows us to understand not only the biological processes that sustain life, but also the importance of a balanced diet for maintaining health and improving quality of life. Also, social and cultural factors influence people's eating habits. In this way, nutrition becomes an essential pillar for achieving a healthy life.

Summary

Nutrition is the fundamental process by which the body obtains, processes, and utilizes nutrients for survival. Its essential functions are: energy supply, tissue construction, metabolic regulation, and disease prevention.

There are several specialized branches such as sports nutrition (for athletes), pediatric nutrition (for children), clinical nutrition (in hospital), and oncology nutrition (for cancer patients).

Nutrition, health and development:

Poor nutrition is vital for health and development throughout life, from strengthening the immune system to improving academic performance and productivity. Malnutrition (deficit or excess) remains a global threat.

Diseases derived from poor nutrition:

- a poor diet can lead to chronic health problems, including:
- Overweight and obesity: the most common in Mexico, linked to poor eating habits.
- Diabetes: high glucose levels that damage vital organs.

- Anemia: lacks of key nutrients (iron, B12, etc). that causes fatigue.
- Osteoporosis: fragile bones due to a slow renewal process.
- Hypertension: high blood pressure, aggravated by an inadequate diet and a sedentary lifestyle.
- Gout: Accumulation of uric acid due to excessive consumption of red meat, seafood or alcohol.

Importance in Mexico:

Nutrition is a major Public health challenge in Mexico, as the country ranks first in the world in childhood and adult obesity. This problem is a leading cause of morbidity and mortality and is closely linked to diseases such as hypertension and diabetes.

—Development—

• What is nutrition?

Nutrition is the fundamental process by which organisms obtain the nutrients necessary for their survival and functioning.

However to better understand what nutrition is, we can turn to the functional perspective provided by the WHO: nutrition is a critical aspect of development and overall health. It is closely linked to well-being at different stages of life, from childhood to adulthood, contributing to stronger immune systems, safer pregnancies, and a lower incidence of non-communicable diseases such as diabetes and cardiovascular disease.

Furthermore, adequate nutrition fosters better academic performance in children and greater productivity in adults, helping to break the cycles of poverty and hunger.

However, malnutrition remains a significant threat, manifesting itself in both undernutrition and overweight a growing problem in low- and middle-income countries.

Functions of nutrition

Recognizing the functions of nutrition is essential to understand the difference between nutrition and feeding.

While feeding refers to the act of consuming food, nutrition focuses on how the body processes and utilizes those nutrients to maintain its vital functions.

Understanding nutrition involves recognizing its role in tissue construction, energy production, metabolic regulation and disease prevention. These internal biological processes are essential for the body's development, health, and overall well-being, and are clearly distinct from simply eating.

Nutritional functions are essential for maintaining the body in optimal condition. The main ones are listed below:

- **Energy supply:** necessary to perform physical and mental activities.
- **Tissue building and repair:** crucial for growth and healing.
- **Regulation of metabolic processes:** ensures the correct functioning of bodily functions.
- **Disease prevention:** helps protect against chronic diseases and strengthens the immune system.

Depending on how organism acquire and utilize nutrients, 5 types of nutrition can be distinguished

- Autotrophic nutrition.
- Heterotrophic nutrition.
- Holozoic nutrition.

This classification demonstrates the diversity of mechanisms that organisms have developed to survive in different environments.

Relationship between nutrition and health:

The relationship between nutrition and health is close, as a balance and varied diet contributes to improving a person's overall health and well-being.

According to the Spanish Agency for Food Safety and Nutrition (AESAN), adopting an eating pattern that prioritizes plant-based foods and reduces the consumption of animal products can reduce the risk of chronic diseases and improve quality of life.

These are some of the branches of nutrition:

- Sports nutrition: nutrition is vital to an athlete's work, as it is one of the factors that most influences their

Performance. This branch of nutrition specializes in people who lead active sports lives. It guides athletes on what, when, and why they should eat or drink certain foods, depending on the occasion.

- **Pediatric nutrition:** Some of the main activities of this role include creating school breakfast menus that provide sufficient nutrients, as well as helping children make better choices regarding their eating habits. Pediatric nutrition involves transitioning their babies from breast milk or formula to solid foods.
- **Clinical nutrition:** In this role, you will work in clinics, private and public hospitals, or community health centers. You will collaborate closely with the medical and nursing staff to create programs based on the patient's income and psychological and physical status.
- **Oncology nutrition:** This nutritionist must have a fairly advanced professional training, both intellectually and personally. As an oncology nutritionist, you will be part of a multidisciplinary medical team that seeks to improve the quality of life of cancer patients.

Importance of nutrition in Mexico

The importance of nutrition in Mexico should not go unnoticed, especially since our country ranks fifth in obesity problems globally. In fact, according to information from the National Institute of Public Health (INSP), over the last 30 years, overweight and obesity have become an epidemic affecting one in three adolescents and children, as well as seven in 10 adults in our country.

The nutrition in Mexico is fundamental and a true challenge, as it plays a key role in preventing this public health phenomenon. It has been shown that this issue is linked to chronic diseases such as hypertension and diabetes, as well as other cardiovascular conditions that represents some of the leading causes of morbidity and mortality.

Nutrition in Mexico is not just a food issue, but an education issue. The social development programs implemented have borne fruit; however there is still a

long way to go to eradicate the nutritional problems so evident in Mexico. With Mexico ranking first in childhood obesity and second in adult obesity worldwide, it is of utmost importance that we realize that having the resources to feed ourselves is only half the battle, while learning to eat properly is the other part of this arduous task.

• Main diseases derived from poor nutrition:

Most people think that eating unhealthy foods is the cause of illness, but that's not the only reason. Eating foods with few nutrients, drinking too little water daily, eating at irregular times, or replacing water with soda or energy drinks can lead to long-term health problems.

Overweight and obesity: these are the most common diseases caused by poor nutrition in Mexico. While adults are more likely to suffer from them, children are also part of the statistics. The risk of suffering from any of these diseases is that they are accompanied by others that only physically deteriorate the body.

Diabetes: this disease occurs when blood sugar (glucose) levels are higher than normal, which can compromise the health of the kidneys, heart, nervous system, and other vital organs.

Anemia: unlike overweight and obesity, anemia occurs when a diet is poor in iron, vitamin B12, vitamin E, protein, or folic acid. Why? These nutrients help maintain normal oxygen levels in the blood, so when these nutrients are lacking, the body feels tired or weak.

Osteoporosis: another disease that can arise from poor nutrition is osteoporosis. Bone is tissue that renews itself over and over again; however, when this process slows, bones become brittle or fragile, causing the first symptoms of osteoporosis. Adults are most likely to suffer from this disease; however, cases can also occur in young people.

Hypertension: One of the causes of aggravated cardiovascular disease is diet, especially if it's based on trans fats, carbohydrates, and alcohol. Thus, one of the consequences, coupled with a sedentary lifestyle or high stress levels is hypertension, a common condition in adults.

Gout: Excessive consumption of red meat, seafood, sugary drinks, or alcohol increases uric acid levels in the blood, causing what is known as gout, intense pain in the joints, knees, and feet.

Conclusion

Nutrition is a vital Process through which the body obtains, transforms, and utilizes the nutrients present in food to ensure the proper functioning of each of its systems. It is not limited solely to the act of eating; it balance of the food we eat, as energy, growth tissue repair, and disease prevention depend on it. In this sense, nutrition becomes an essential foundation for achieving and maintaining optimal health, demonstration that good nutrition not only influences the present, but also the long-term quality of life.

Linkography

- What is nutrition? / relation with other branches

<https://www.unir.net>

- Importance of nutrition in Mexico

<https://www.etac.edu.mx>

<https://universidadinsurgentes.edu.mx>

- Branches of nutrition

<https://www.uvg.edu.mx>

- Diseases resulting from poor nutrition

<https://ecofiltro.mx>