



# **SOCIAL ASPECTS OF HUMAN ECOLOGY**

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A top-down view of a variety of fresh and healthy foods arranged on a light-colored surface. The items include a pomegranate, almonds, kidney beans, broccoli, avocado, blueberries, green beans, lentils, tomatoes, corn, mushrooms, and various types of meat and fish. The text "NUTRITION AND HUMAN HEALTH" is overlaid in large, bold, red capital letters across the top half of the image.

# **NUTRITION AND HUMAN HEALTH**

**A healthy body needs healthy nutrition.**

**Nutrition: the science which deals with the study of nutrients and food and their effects on the nature & functions of organisms under different conditions of age, health and disease.**

**Good nutrition is an important part of leading a healthy lifestyle. Combined with physical activity, your diet can help you to reach and maintain a healthy weight, reduce your risk of chronic diseases (like heart disease and cancer), and promote your overall health.**



**Balanced diet: diet necessary for healthy body.**  
**It provides each nutrients in the right proportion needed to maintain optimum health. A balanced diet should be both adequate and wholesome.**





# DEPENDENCE OF THE NATURE OF FOOD ON THE ENVIRONMENT

Nature of food depends on many factors including:

- ☐ farming method,
- ☐ where food is grown,
- ☐ what pesticides and fertilizers are used,
- ☐ what is fed to our livestock, etc.
- ☐ water and air pollution
- ☐ Loss of wild life and of natural habitats





# HABITATS

A habitat is type natural environment in which a particular species lives. These are those places where the species can find food, shelter, protection and mates for reproduction.



Desert



Domestic



Farm



Forest



Oceans



Polar



Savannah



Tropical Rainforest



Wetlands



UK Wild

Habitats





# BASIC NUTRIENTS AND THEIR IMPORTANCE IN FUNCTIONING OF BODY

Nutrient	Primary functions
Water	Dissolves and carries nutrients, removes waste, and regulates body temperature
Protein	Builds new tissues, antibodies, enzymes, hormones, and other compounds
Carbohydrate	Provides energy
Fat	Provides long-term energy, insulation, and protection
Vitamins	Facilitate use of other nutrients; involved in regulating growth and manufacturing hormones
Minerals	Help build bones and teeth; aid in muscle function and nervous system activity



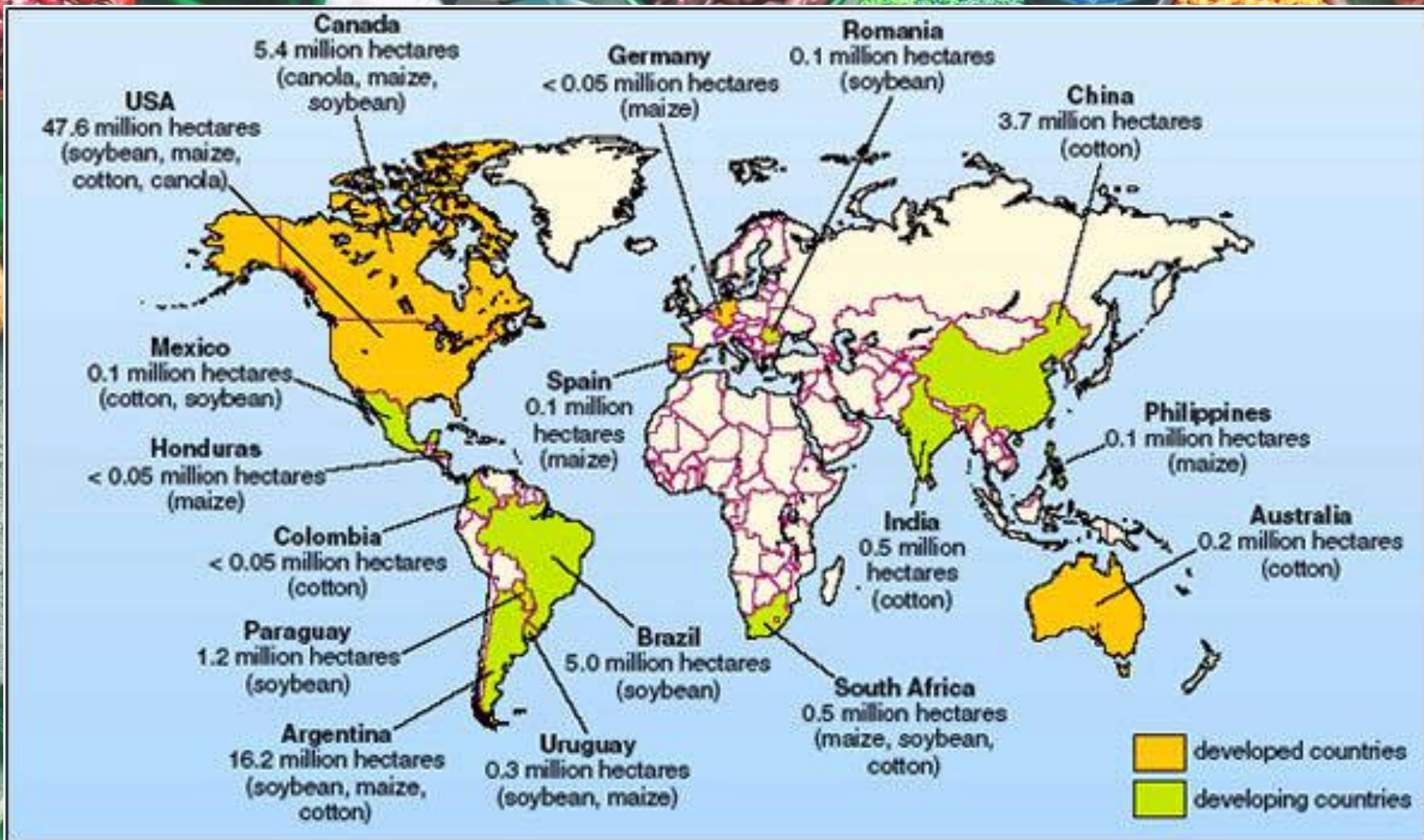
# FOOD RESOURCES AND THEIR GEOGRAPHICAL LOCATIONS

The map illustrates the following regional food resources:

- North America:** alfalfa, almonds, apples, apricots, artichokes, asparagus, avocados, bananas and plantains, barley.
- Central America and Mexico:** beans, blueberries, cabbages, carrots, cassava, cherries, chickpeas, chillies and peppers, cinnamon.
- Caribbean:** cocoa beans, cucumats, coffee, cottonseed oil, cowpeas, cranberries, cucumbers, dates.
- South and East Mediterranean:** clover, faba beans, figs, garlic, ginger, grapefruit, grapes, groundnut, hazelnuts.
- Southwestern Europe:** hops, kiwi, leeks, lemons and limes, lentils, lettuce, maize, mangoes, mate.
- South Asia:** melons, millets, oats, olives, onions, oranges, palm oil, papayas, peaches and nectarines.
- East Asia:** pears, peas, pigeonpeas, pineapples, plums, potatoes, pumpkins, quinoa, rape and mustard seed.
- Southeast Asia:** rice, rye, sesame, sorghum, soyabean, spinach, strawberries, sugar beet, sugarcane.
- Central Asia:** sunflower, sweet potatoes, taro, tea, tomatoes, vanilla, watermelons, wheat, yams.
- West Asia:** eggplants, eggplants, eggplants, eggplants, eggplants, eggplants, eggplants, eggplants, eggplants, eggplants.
- West Africa:** melons, millets, oats, olives, onions, oranges, palm oil, papayas, peaches and nectarines.
- Central Africa:** pears, peas, pigeonpeas, pineapples, plums, potatoes, pumpkins, quinoa, rape and mustard seed.
- Southern Africa:** rice, rye, sesame, sorghum, soyabean, spinach, strawberries, sugar beet, sugarcane.
- East Africa:** sunflower, sweet potatoes, taro, tea, tomatoes, vanilla, watermelons, wheat, yams.
- Andes:** alfalfa, almonds, apples, apricots, artichokes, asparagus, avocados, bananas and plantains, barley.
- Tropical South America:** beans, blueberries, cabbages, carrots, cassava, cherries, chickpeas, chillies and peppers, cinnamon.
- Temperate South America:** cocoa beans, cucumats, coffee, cottonseed oil, cowpeas, cranberries, cucumbers, dates.









# **SOCIAL PROBLEMS OF NUTRITIONAL BIOTECHNOLOGY**



**Genes inserted in the genetically modified food may get immune to the pesticides and insecticides with time.**

**In the case of certain people, the immune system may not tolerate the desired genes inserted through genetically modified food.**

**This may result in diseases getting immune to antibiotics and drugs.**

**Studies are also going on to verify if the consumption of genetically modified food may cause cancer.**

**Some scientists are concerned that genetically modified food may create new allergens.**

**The genetically modified food may produce new proteins which may act as a new allergen leading to allergic reactions in human beings and the entire food chain**



# DISEASES CAUSED BY THE BIOCHEMICAL FEATURES OF THE FOOD

<i>Vitamin</i>	<i>Diseases and their symptoms</i>	<i>Available from</i>
A (Retinol)	poor vision, night-blindness	spinach, carrots, butter, mangoes
B <sub>1</sub> (Thiamine)	extreme weakness, beri-beri	eggs, meat, yeast
B <sub>2</sub> (Riboflavin)	retarded growth, bad skin	green leafy vegetables, beans, peas, milk
B <sub>12</sub> (Cyanocobalamin)	anaemia	non-vegetarian food like meat
C (Ascorbic acid)	scurvy, swollen gums, loose teeth	lime, lemon, oranges
D (Calciferol)	rickets, brittle bones in children which break or bend easily	milk, fish, liver oil
K (Phylloquinone)	excessive bleeding due to injury	green leafy vegetables
<b>Diseases Caused due to Deficiency of Minerals</b>		
<i>Name of minerals</i>	<i>Diseases and their symptoms</i>	<i>Available from</i>
Calcium	brittle bones, excessive bleeding, bad muscular movement	milk, green leafy vegetables
Phosphorus	bad teeth and bones	pulses, cereals, milk
Iron	anaemia, lack of red blood cells	green vegetables, pulses, meat
Iodine	goitre, enlarged thyroid gland	fish, salt from sea water
Copper	low appetite, retarded growth	pulses and leafy vegetables



## 4 SIGNS OF PROTEIN DEFICIENCY DISEASES



CONSTANT CRAVING



MUSCLE AND/OR JOINT PAIN



CAN'T SLEEP WELL?



LOW ENERGY, MOODINESS, AND STRESS?

POULTRY PROTEIN



## Diseases due to deficiency of carbohydrates

- Usage of Fats as Energy Source (underweight)
- KETOSIS: Accumulation of Ketones in the body (in absence of carbohydrates the body starts using the proteins and converts it to sugars)
- HYPOGLYCEMIA

### SIGNS AND SYMPTOMS





# GOOD CARBS

VS.

# BAD CARBS

## WHY CARBOHYDRATES MATTER TO YOU

Over the last 10 years, opinions have ranged wildly on carbohydrates. Some diets promote carbs as healthy, while others shun them. So are carbohydrates good or bad? The short answer is: they're both.

### CARBS ARE EVERYWHERE!

Carbohydrates are not just bread, rice or pasta – all of the following foods are examples of carbohydrates:



Breads & Cereals



Rice & Pastas



Nuts & Seeds



Vegetables & Fruits



Milk & Dairy



Juice & Soda



Candy & Desserts

### COMPLEX CARBS = GOOD

Good carbs are also referred to as complex carbohydrates. Their chemical structure and fibers require our bodies to work harder to digest, and energy is released over a longer time.

For the most part, good carbs are in their 'natural' state – or very close to it (including whole-grain breads, cereals and pastas).



Whole Grain Breads



Bran Cereals



Green Vegetables



Fresh Fruits

#### WHY ARE THEY GOOD?

- 👍 HIGH IN FIBER & NUTRIENTS
- 👍 LOW GLYCEMIC INDEX (SEE BELOW)
- 👍 HELP YOU FEEL FULL WITH FEWER CALORIES
- 👍 NATURALLY STIMULATES METABOLISM

### SIMPLE CARBS = BAD

Simple carbohydrates are smaller molecules of sugar that are digested quickly into our body. The energy is stored as glycogen in our cells, and if not used immediately gets converted to fat.

Bad carbs are generally 'processed' carb foods that have been stripped of their natural nutrients and fiber to make them more 'consumer friendly.'



Candy & Desserts



Sugared Cereals



Sodas & Sugary Drinks



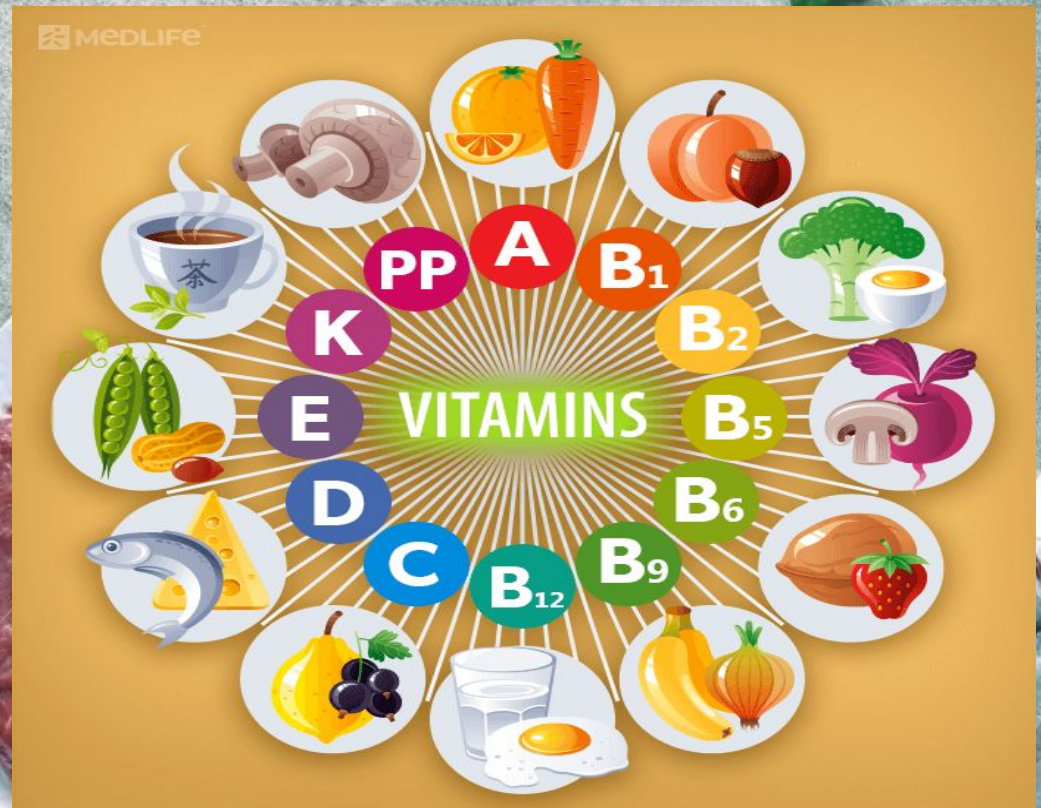
Refined Breads

#### WHY ARE THEY BAD?

- 👎 LOW IN FIBER & NUTRIENTS
- 👎 HIGH GLYCEMIC INDEX (SEE BELOW)
- 👎 EMPTY CALORIES CONVERTED TO FAT
- 👎 HIGH BLOOD GLUCOSE LEVELS = FEEL TIRED



**VITAMINS:** Vitamins are organic compounds that are needed in small quantities to sustain life. Most vitamins need to come from food. This is because the human body either does not produce enough of them, or it does not produce any at all.



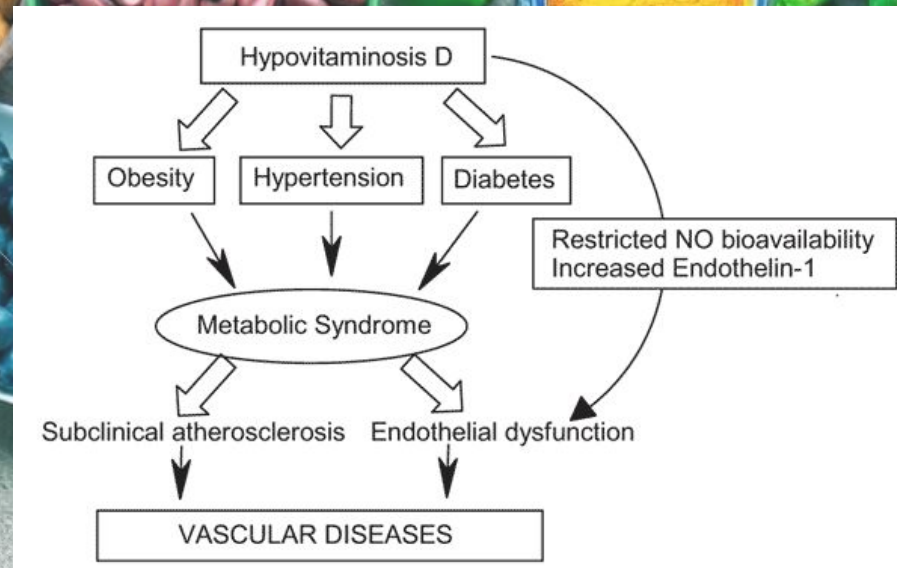


**Avitaminosis is a clinical condition caused by the lack of vitamins. The symptoms of lack of vitamin depend on the particular type of vitamin.**

- ❖ **Vitamin deficiency can be caused by**
- ❖ **poor diet; the most common cause of avitaminosis is the lack or insufficient quantity of fresh and varied food.**
- ❖ **Exclusive consumption of foods preserved or cooked at high temperatures; cooking inactivates some vitamins.**
- ❖ **Deficient intestinal absorption, which could be due to many different factors.**
- ❖ **Increased vitamin requirements; there are physiological situations (pregnancy, lactation, and during active growth in children) and diseases (hyperthyroidism, fever) in which vitamin requirements are increased, and their normal intake is not enough to satisfy the body's requirements.**
- ❖ **Unbalanced diet; excessive ingestion of carbohydrates increases the requirements for vitamin B1. Excessive alcohol ingestion interferes with the absorption of several vitamins.**







## Hypovitaminosis:

A disorder that is caused by the deficiency of a vitamin. The deficiency may result from either suboptimal vitamin intake or conditions that prevent the vitamin's use or absorption in the body.

Examples include beriberi caused by thiamine deficiency, scurvy caused by vitamin C deficiency, and rickets caused by vitamin D deficiency.



# FOOD ADDITIVES

Substances that are added to food to maintain or improve the safety, freshness, taste, texture, or appearance of food are known as food additives. Some food additives have been in use for centuries for preservation – such as salt (in meats such as bacon or dried fish), sugar (in marmalade), or sulfur dioxide (in wine).





# PROBLEMS OF USAGE OF FOOD ADDITIVES IN FOOD INDUSTRY

It is often the additives that are used to give a food a marketable quality, such as colour, that most commonly cause allergic reactions. Some of these hypersensitive reactions include:

- ❑ Digestive disorders – diarrhoea and colicky pains
- ❑ Nervous disorders – hyperactivity, insomnia and irritability
- ❑ Respiratory problems – asthma, rhinitis and sinusitis
- ❑ Skin problems – hives, itching, rashes and swelling.



# **SOCIAL PROBLEMS OF MODERN SOCIETY**

Adolescents and young population are most susceptible to substance abuse.

## **DRUG ABUSE**

Signs that someone has a drug problem include

- ☐ Changing friends a lot
- ☐ Spending a lot of time alone
- ☐ Losing interest in favorite things
- ☐ Not taking care of themselves - for example, not taking showers, changing clothes, or brushing their teeth
- ☐ Being really tired and sad
- ☐ Eating more or eating less than usual
- ☐ Being very energetic, talking fast, or saying things that don't make sense
- ☐ Being in a bad mood
- ☐ Quickly changing between feeling bad and feeling good
- ☐ Sleeping at strange hours
- ☐ Missing important appointments
- ☐ Having problems at work or at school
- ☐ Having problems in personal or family relationships







## Narcotics

Even termed as '**Opioids**' and originally derived from substance '**Opiates**' and its common form includes morphine and **heroin**



## Cocaine

**Cocaine** is a strong stimulant mostly used as a recreational drug. It is commonly snorted, inhaled, or injected into the veins.



## Hallucinogens

Produces sensory hallucinations involving any of the 5 body senses. Common types of hallucinogens include **LSD**, **PCP** and peyote



## Inhalants

Drugs that are to be inhaled and are available either as a **Gas** or **Solvent**. Most common Inhalant products like nail polish and gasoline



## Amphetamines

Boosts alertness and increases activity of the central nervous system, the most abused form of stimulants are **amphetamines**



## Cannabis

Marijuana use has been legalized in certain states by prescription because of its **psychoactive** effects.



# ADDICTION TO SMOKING

Nicotine is the chemical in tobacco which is smoked that makes it hard to quit. Nicotine produces pleasing effects in your brain, but these effects are temporary. So you reach for another cigarette.

**WITHDRAWAL SYMPTOMS:** physical and mood-related symptoms, such as

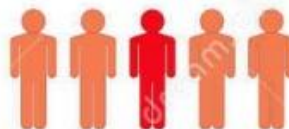
- ✓ strong cravings,
- ✓ anxiety,
- ✓ irritability,
- ✓ restlessness,
- ✓ difficulty concentrating,
- ✓ depressed mood,
- ✓ frustration,
- ✓ anger,
- ✓ increased hunger,
- ✓ insomnia,
- ✓ constipation
- ✓ diarrhea.







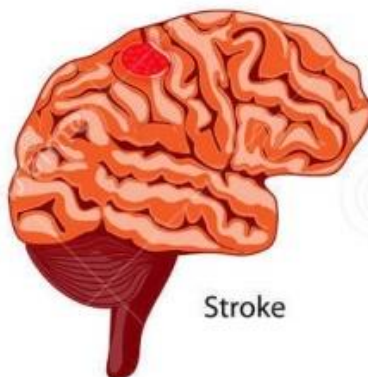
## Danger of smoking



Impotence



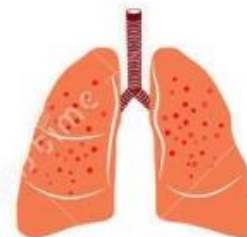
Heart  
disease



Stroke



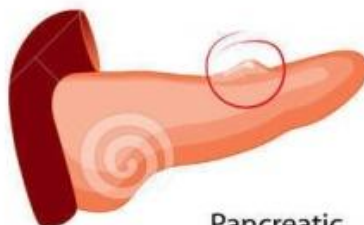
Bad breath and  
yellowed teeth



Emphysema

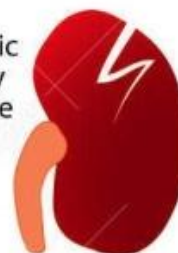


Peptic  
ulcer  
disease



Pancreatic  
cancer

Chronic  
kidney  
disease



Lung cancer



# ALCOHOLISM

**Alcoholism is a pattern of alcohol use that involves problems controlling your drinking, being preoccupied with alcohol, continuing to use alcohol even when it causes problems, having to drink more to get the same effect, or having withdrawal symptoms when you rapidly decrease or stop drinking.**





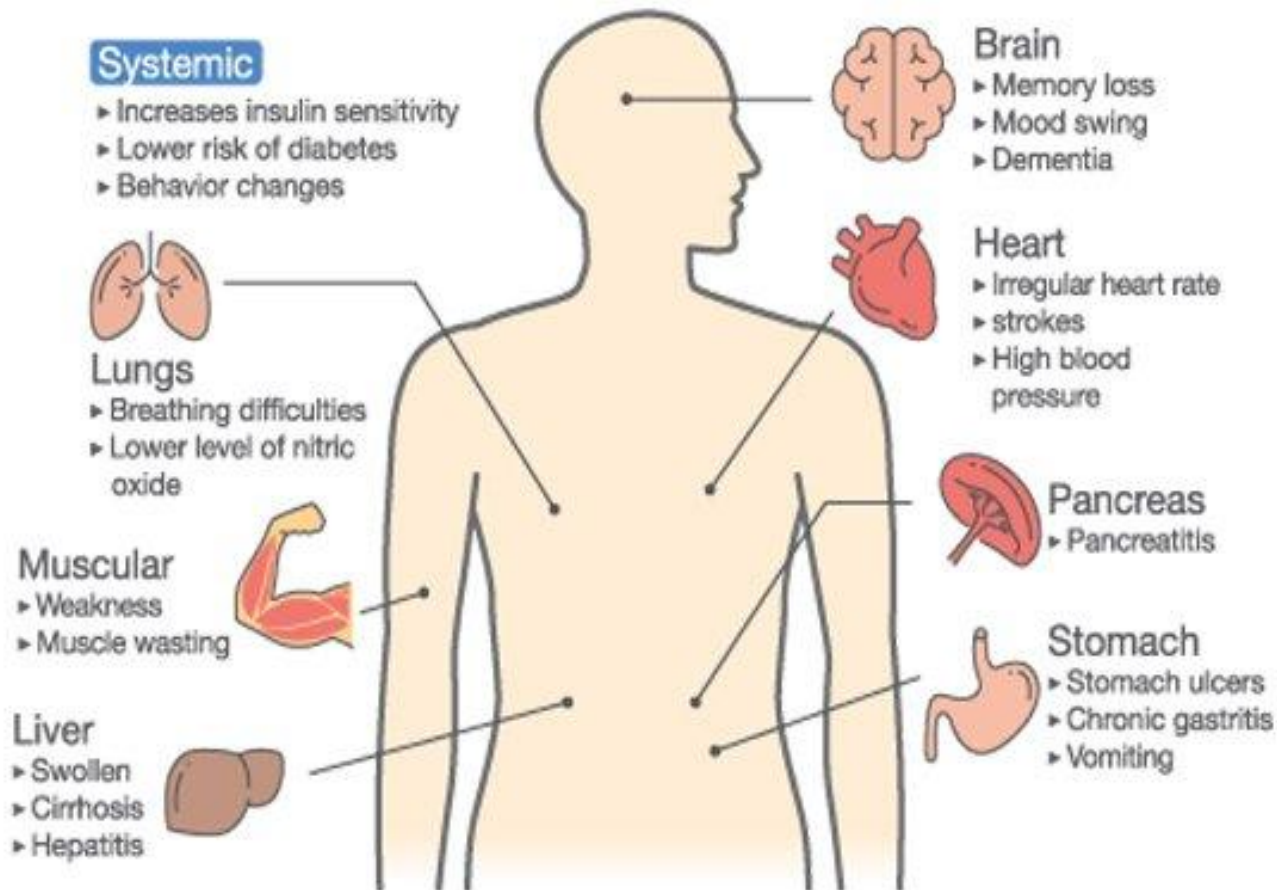
# SYMPTOMS OF ALCOHOLISM

The background of the slide features a warm, golden-brown color palette. It shows several glass bottles of alcohol, some standing upright and others lying on their sides. In the center, there is a blurred silhouette of a person, possibly a woman, looking down or away. The overall atmosphere is somber and focused on the theme of alcoholism.

- ☐ *Being unable to limit the amount of alcohol you drink*
- ☐ *Wanting to cut down on how much you drink or making unsuccessful attempts to do so*
- ☐ *Spending a lot of time drinking, getting alcohol or recovering from alcohol use*
- ☐ *Feeling a strong craving or urge to drink alcohol*
- ☐ *Failing to fulfill major obligations at work, school or home due to repeated alcohol use*
- ☐ *Continuing to drink alcohol even though you know it's causing physical, social or interpersonal problems*
- ☐ *Giving up or reducing social and work activities and hobbies*
- ☐ *Using alcohol in situations where it's not safe, such as when driving or swimming*
- ☐ *Developing a tolerance to alcohol so you need more to feel its effect or you have a reduced effect from the same amount*
- ☐ *Experiencing withdrawal symptoms — such as nausea, sweating and shaking — when you don't drink, or drinking to avoid these symptoms*



# SYMPTOMS OF ALCOHOLISM





**THANKS FOR YOUR ATTENTION**

**STAY SAFE!**

