

Date: _____

"Let Thy Food Be Thy Medicine"

What is balanced diet and unbalanced

A Balanced Diet:

diet. Define malnutrition,

"A balanced diet is the one that includes food from five groups

its causes and consequences of

in order to derive seven nutrients"

malnutrition.

→ The basic five groups include the milk, meat, beans and pulses, green leafy vegetables and Cereal group.

→ From the above groups, we achieve proteins, fats, carbohydrates, water, minerals, vitamins and fibre.

An Unbalanced Diet:

"An unbalanced diet is one that lacks the necessary variety and proportions of nutrients needed for the body to thrive"

→ An unbalanced diet can either lead to malnutrition (health crisis resulting from food which is either too rich or too deficient in nutrients).

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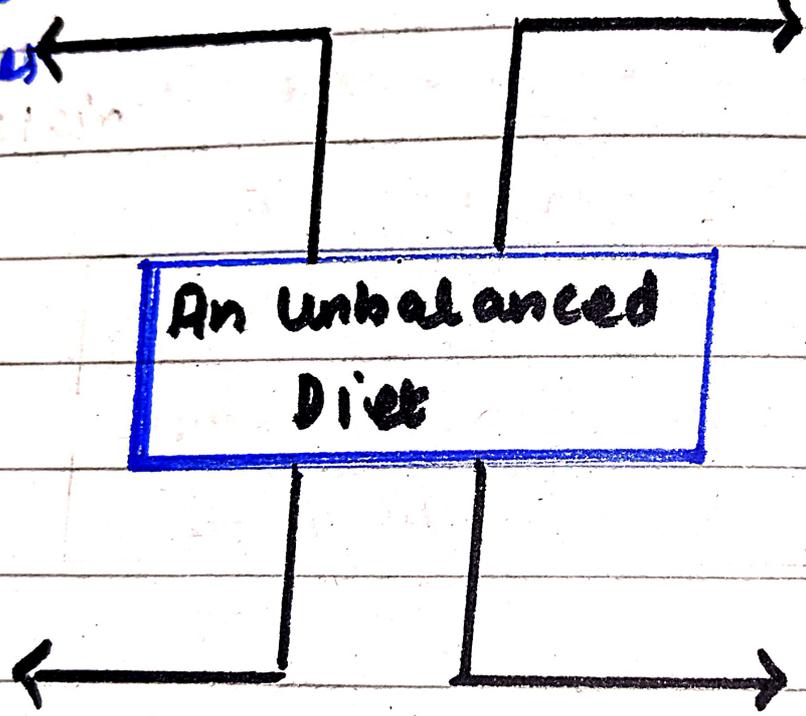
Contains more
carbohydrates
and less
proteins

Processed &
Artificially
Sweetened
Food

**An Unbalanced
Diet**

Increase
intake
of
salts

Minimal
intake
of fruits
& vegetables



Malnutrition.

"The deficiency of proper nutrition in the body is known as malnutrition"

Consequences of Malnutrition:

1. Unexplained weight loss or failure to gain weight.
2. Fatigue and weakness.
3. Poor concentration and irritability.
4. Delayed wound healing.
5. Frequent infections due to weakened immunity.
6. In children: Stunted growth, developmental delays and difficulty learning.

Causes of Malnutrition:

Malnutrition does not have a single cause. It results from interconnected factors that prevent people from accessing adequate nutrition.

Food Insecurity:

Food insecurity means not having reliable access to sufficient, safe, nutritious food. According to Global Hunger Index 2025, 16.5% of Pakistan population is undernourished.

Poverty:

Families living in poverty often struggle to afford nutritious food or pay for healthcare when children become ill.

Mental Health Factors:

Depression, dementia, or eating disorders such as anorexia nervosa and bulimia nervosa can severely decrease food intake.

Medical Conditions And illnesses:

Chronic diseases (cancer), infection-related nutrient loss (diarrhea, tuberculosis) and swallowing / chewing difficulties (dental issues).

Malabsorption Disorders:

Conditions like Crohn's disease, inflammatory bowel disease, or pancreatic insufficiency hinder nutrient uptake.

Increased Nutrient Demand:

Pregnancy, breast feeding or rapid child growth requires higher nutrient intake than is provided.

Planning A Balanced Diet:

1. Keeping age, sex, and calorie requirement in hand before suggesting a balanced diet. Food must be selected from five basic groups - i.e. Carb
- Economic status of a person, whether he/she can afford it.
- Locally available food should be used

Difference between
malasmus and

Marasmus

kwashiorkor and
what is anorexia

Kwashiorkor

nervosa and bulimia

Nervosa:

Cause

Deficiency of both proteins
& Carbohydrates

Age

Between the age of 6 months
and 1 year of age

Edema

Absent

Weight loss

There is severe weight loss

Symptoms

There is only thinning of limbs -

Deficiency of
Proteins

Between the age
of 6 months and
3 years of age

Present

There is some
degree of weight loss

Thinning
of muscles and
limbs -

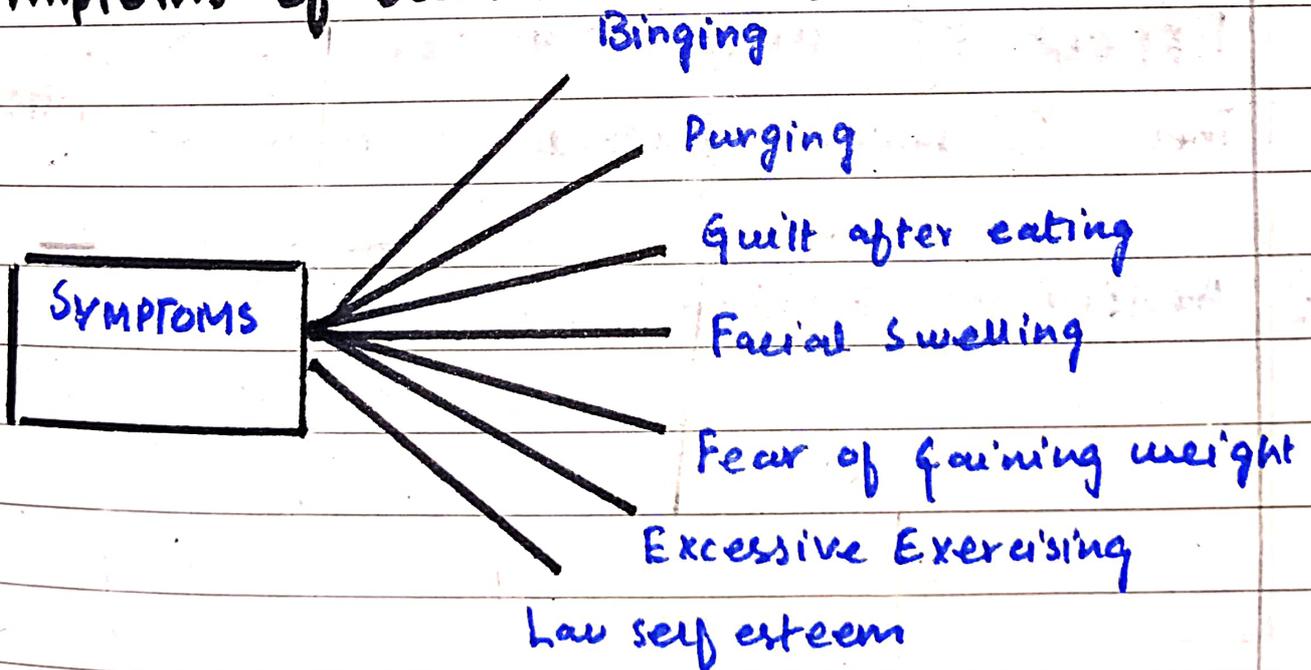
Anorexia Nervosa:

An eating disorder characterized by restriction of food intake leading to low body weight, typically accompanied by intense fear of gaining weight and disturbed perception of body weight and image.

Bulimia Nervosa:

Bulimia Nervosa is an eating disorder that causes you to eat large amounts of food at one time (binge) and then get rid of it (purge).

Symptoms of Bulimia Nervosa:



ANTIBIOTIC

Q. Indiscriminate Use of antibiotics:

Definition of Antibiotics:

Waksman in 1942 defined 'antibiotic' (gk Anti - against, biosis - life) as 'a soluble chemical substance, produced by living organism (mould or bacterium) and inhibits the growth of or kills other microorganisms.'

The first antibiotic was discovered in 1928 by Fleming.

Importance of Antibiotic:

→ It was proved to be a panacea (a cure for all). It slows or stops the growth of bacteria making it easier for the body's natural defences to eliminate them.

Effect of indiscriminate use of Antibiotics

Their indiscriminate use of antibiotics can be harmful.

1) Antibiotic Resistance Development:

Bacteria evolve and become resistant to drugs when antibiotics are used unnecessarily (eg. viral infections like flu/cold) or when courses are not completed.

2) Damage to Body's Microbiome:

Antibiotics also kill useful bacteria present in intestine. This disturbs the natural balance of intestinal bacteria fauna.

3) Ineffective Future Treatment:

Common bacteria can become so resistant that standard treatments fail, leading to longer hospital stays, higher medical costs, and increased mortality rate.

4) Unnecessary Side Effects:

Unnecessary consumption can cause adverse allergic reactions or harm organs like liver and kidneys.

Precaution:

1. Antibiotic should be taken only when prescribed by doctors.
2. The schedule, such as dose, strength and time should be followed strictly.
3. The full course should be prescribed.
4. No antibiotics are required for viral infections.

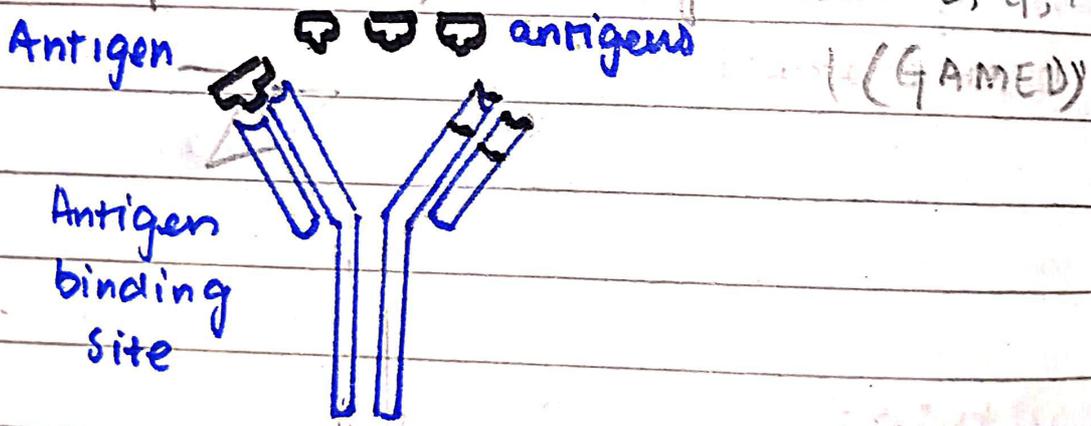
Q.note on antibodies

Date:

and difference between vaccine and antibiotics.

Antibodies:

- 1- They are also called immunoglobulin.
- 2- They are protein in nature.
- 3- When B cells detect a specific antigen via their surface receptors (BCR), they bind to it, become activated, and internalize the antigen.
- 4- They appear like Y shape, under the microscope.
- 5- They have five types - Immunoglobulin A, Immunoglobulin B, Immunoglobulin D, G, M.



Antibody Figure.

Aspect	Vaccine	Antibiotics
Purpose	To prevent infectious disease by stimulating the immune system to develop immunity against specific pathogens.	To treat bacterial infections by killing or inhibiting the growth of bacteria.
Target	Viruses, bacteria or other pathogens (depending on the vaccine)	Bacteria only -
Mode of Action	Triggers the body's immune response to recognize and fight the pathogen if exposed in the future.	Directly kills bacteria or stops their growth.
Usage Timing	Given before infection (prophylactic)	Given after infection (therapeutic)
Examples	Measles vaccine, Polio vaccine, covid-19	Penicillin, Amoxicillin

Date:

	vaccine	Tetracycline
6- Effect Duration	long-lasting immunity, Sometimes lifelong.	Works only during the course of treatment; no immunity is developed.

In Summary, vaccines are preventive and help the immune system prepare for future infections, while antibiotics are used to treat existing bacterial infections.