

GISA Balanced Diet

ay: _____

Date: _____

Quote:-

* "The doctor of the future will no longer treat the human frame with drugs, rather will cure and prevent disease with nutrition." - Thomas Edison

* Let food be thy medicine, thy medicine shall be thy food - Hippocrates

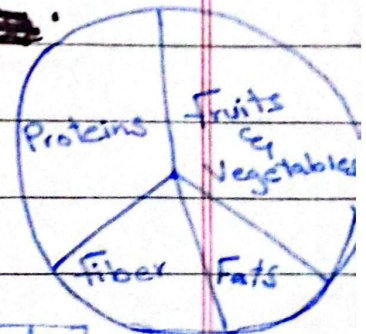
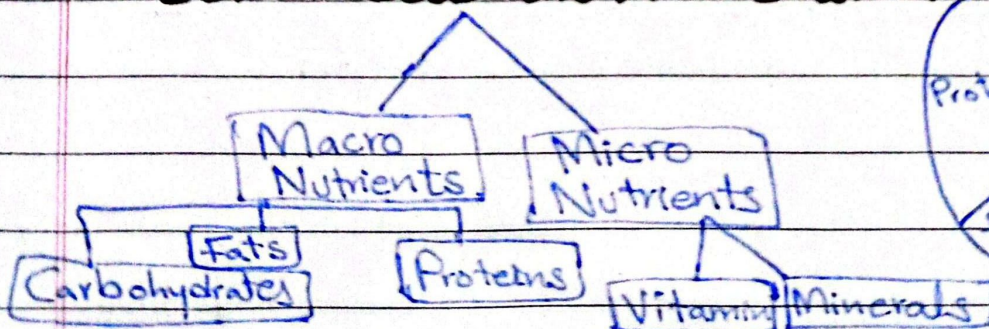
* Your body is not a temple, it's an amusement park. Enjoy the ride. - Anthony Bourdain

What is a balanced diet?

A Balanced diet is defined as one which contains different items of foods from 8 five groups in such quantities and proportions that the need of seven all nutrients is adequately met.

Seven nutrients we need E

Seven Essential Nutrients:



Others Essential: Water, fiber

①

Five Food Groups:-

Dairy

Dairy & Alternatives; Milk, cheese, Yogurt

Protein Foods; Meat, fish, Poultry, eggs

Grains; Bread, rice, pasta, oats, lentils

Vegetables; Broccoli, carrots, spinach etc.

Fruits; Apples, banana, oranges etc.

Elements Of Balanced Diet & their function and sources

1- Fats - In most food s. fats as fuel to generate energy
 function: fuels all bodily activities
 Source: butter, oil, nuts, meat, fish & dairy products

2. Proteins:-

Function: The body is building, maintain & repair muscle tissues.
 Sources: meat, poultry, fish, eggs, nuts

3. Carbohydrates:-

Function: body converts carbs \rightarrow glucose for body ^{cell} needs
 Source: release into bloodstream used as energy source
 Grains, bread, cereals, vegetables, beans, fruits & dairy

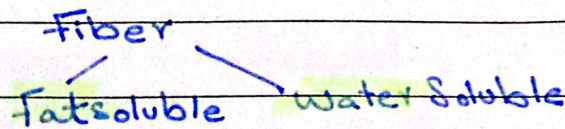
4. Vitamin & Minerals: Vital for life

Function: Proper functioning, growth & development of body.

Sources: Vitamins & minerals sources are varied but fresh vegetables, fruits, meat & dairy products provide most of them

5. Fibers

Type of carbs not easily able to break down.



Function: Prevent or relieve constipation.

Function: Controls Cholesterol

Sources: bread, rice, lentil, oats, vegetables & fruits.

Significance Of Balanced Diet:-

- 1- Proper functioning of human body, some amount of every nutrient is vital.
- 2- Absence or deficiency leads to prone infection, diseases & fatigue.
- 3- Therefore, balanced diet essential to keep human body safe and sound. Who get unbalanced diet - face stagnant
- 4- growth, low physical performance, recurrent diseases & infections.

How to Plan a Balanced Diet:

A Person's Balanced diet vary from person to person. according to his/her body

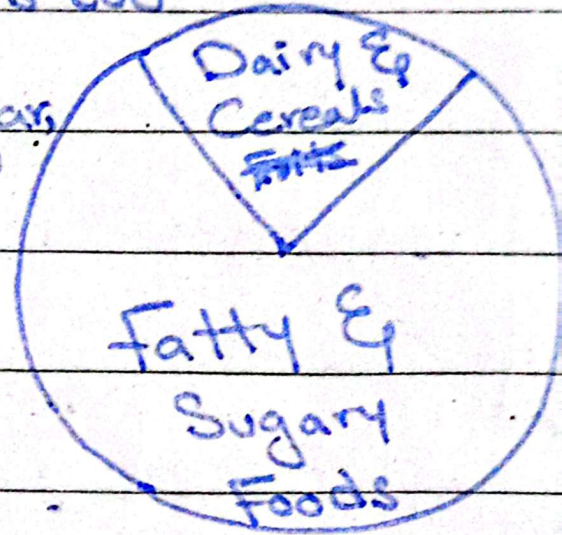
- a) Sex; age, color height, weight, gender
- b) Caloric Requirement: Children, Adult, lactating or expecting women
- c) Economic Status: If its poor or mediocre, prescribe the foods according to his affordability to maintain his daily diet.
- d) Local availability: Get those foods which are locally or seasonably available to get easily. at low cost.
- e) Must include food from 5 groups to attain all nutrients which body need. so balanced diet would be attained.

After that we easily identify, which person can get what calorie amount:

Person	Req. calorie
Sedentary Child	1,000 - 1,400
Active Child	1400 - 2,100
Women = 9-13 years	1400 - 2,200
Men = "	1600 - 2,600

What is UnBalanced Diet?

An UnBalanced diet lacks essential nutrients (proteins, fiber, fats, carbs, minerals) or has too much of certain things (sugars, unhealthy fats, salt).



Quote:-

To eat is a necessity
but to eat intelligently is an art -

Every time you eat or drink, you are either feeding disease or fighting it -

— Heather Morgan

Consequences of Unbalanced Diet:-

Consuming excess sugar, unhealthy fats and salt, junk foods, coupled with insufficient vitamins, minerals, fiber and water creates these widespread problems.

Physical Health Consequences

a) **Weight Gain & obesity:** Too many calories from processed foods, sugars and fats cause weight gain

b) **Type 2 diabetes:** Excessive sugar intake leads to insulin resistance.

Heart Disease & Hypertension: Excess salt, fats and cholesterol raise blood pressure & heart disease risk.

c) **Weakened Immune System:** Lack of essential nutrients makes you more prone to infections.

d) **Osteoporosis:** Insufficient Calcium & Vitamin-D ^{leads to} weaken bones

e) **Cancer:** Low intake of fruits, vegetables and whole grains increases cancer risk.

f) **Dental Problems:** High sugar intake

causes tooth decay and gum disease

Mental Health Consequences

a) **fatigue**: The brain needs consistent nutrients to function well.

b) **Mental Health disorder**: Deficiencies in nutrients like omega-3s & B vitamins are linked to depression & anxiety.

Gut related Imbalance: Affects digestion causing bloating, cramping & diarrhoea.

Other Issues

Malnutrition: causes fatigue, hair brittle or hairfall, weight gain etc

UNBALANCED DIET AND MALNUTRITION

A diet that does not provide the right amounts or variety of nutrients (macro & micro). It's an unbalanced diet.

While Malnutrition is state of poor nutrition resulting from an unbalanced diet.

It's may be over nutrition or under nutrition.
(too many calories) (Not enough calorie)

Key difference

Diet (Input) = What you eat (unbalanced)

Malnutrition (Output): The body's state due to that diet too little, too much or wrong way.

1) Double burden: An unbalanced diet, nutrient-poor cause malnutrition in all its forms simultaneously. A person can be overweight or obese while also being malnourished due to lacking essential micronutrients.

Impact on Body Function

Malnutrition causes body to break down its own tissues, weakens the immune system and hinders physical and cognitive development.

Forms of Malnutrition caused by unbalanced diet

Under Nutrition — Wasting — low weight for height
 severe weight loss
 — Stunting — Low height-for-age
 nutrient deficiencies
 — Underweight — Low weight-for-age
 Micronutrient related malnutrition — Inadequate intake

of essential vitamins and minerals (e.g. vitamin A, Iodine, Iron) often referred as "hidden hunger".

Over Nutrition: Caused by excessive consumption of energy-based dense foods

that are high in fats and sugars.
Consequences of this Relationship

⇒ **Non-communicable Diseases**

Unhealthy diets → heart disease, cancers, strokes, diabetes

⇒ **Weakened Immunity:**

Malnutrition → pneumonia & malaria

⇒ **Reduced Development**

Chronic Malnutrition → Stunted growth
impairs cognitive development

⇒ **Economic Impact**

Malnutrition → ↓ Productivity
Slows Economic growth

Factors

Poverty, Food environment, Lack of knowledge
Medical Issues

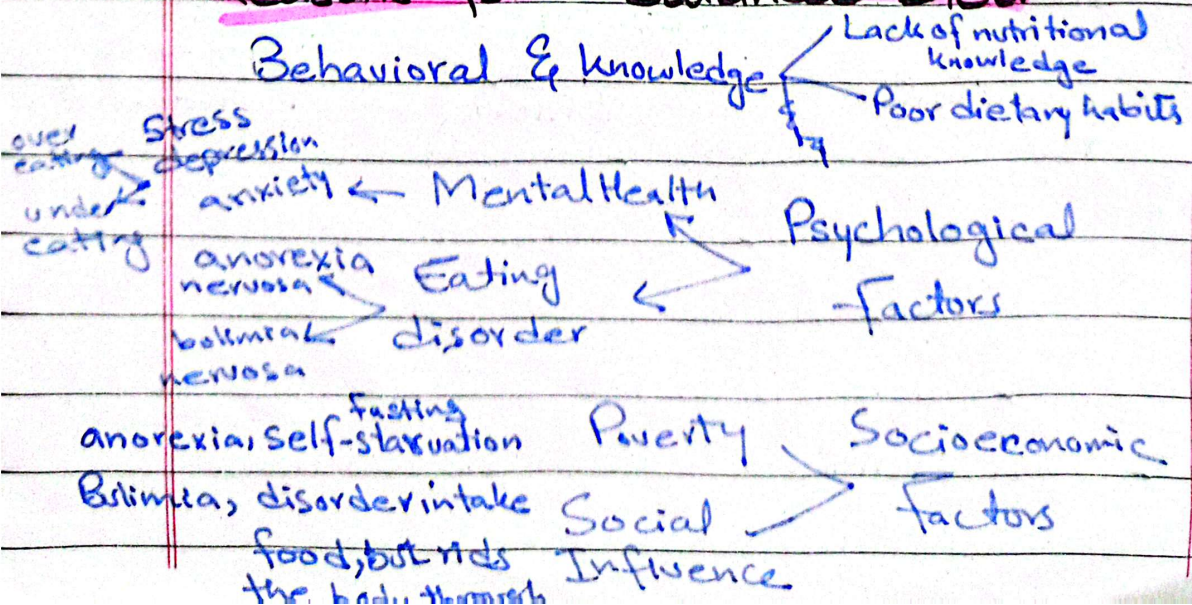
Prevention & Treatment

* Balance Diet * Nutrient-Dense Choices

* Fortification & Supplements.

* Policy Intervention

Reasons for UnBalanced Diet:-



Difference between Marasmus

& Kwashiorkor :- Both are form of Malnutrition

Marasmus: Deficiency of both calories and proteins alongwith essential nutrients proteins carbohydrates & fats.

Kwashiorkor: - form of malnutrition.

Deficiency of proteins. May receive enough calories but protein intake remains insufficient.

Differentiate btw

	Marasmus	Kwashiorkor
Cause	Deficiency of Proteins & calories	Severe Proteins deficiency
Age group	btw 6 months & 1 years	btw 6 months & 3 years
Oedema	Absent	Present [Swelling in ankles, feet, face & belly]
Fatty liver	No enlargement of liver	Often enlarged
Appetite	Poor appetite	Generally a voracious feeder
Nutritional Requirement	Intake Proteins, Carbohydrates & fats	Adequate Protein Intake
Weight loss	Very Severe	Some degree of weight loss
Symptoms	Only thinning of limbs	Thinning of muscle limbs

Treatments

1. Dietary Management
 2. Medical Supervision
 3. Nutritional Supplement
 4. Prevention
 5. Include variety in meals
 6. Monitor child growth
 7. Hygiene & sanitation
 8. Community Support
- Ready to use sup foods
Micro nutrient Supplement

Vitamins

Latin word
"vita" means
life

Vitamins are groups of organic compounds required in small amounts for normal growth, development and metabolic function in humans

Their absence can lead to deficiencies

Their excess leads to toxicity

x Classification on the basis of solubility

Characteristics

- 1) They can not be synthesized by body tissues timely enough to meet our needs
- 2) Water soluble can't store in body. It excretes with urine
- 3) fat soluble can be stored in adipose tissue and liver.
- 4) Synthetic vitamins are identical to natural vitamins.
- 5) Once growth & development are completed. Still body vitamins remain essential for body for healthy maintenance of cells tissues & organ of the body

6) When absent from diet, they will ^{cause} specific deficiency.

Day: _____

Date: _____

Functions:-

- They build up resistance of body against diseases.
- Prevent & cure various diseases caused by deficiency.
- Help digestion & utilization of mineral salts & carbohydrates
- Help health protection
- Maintenance of proper health and normal growth.

Classification on the basis of Solubility:-

Fat Soluble

- It stored in body fat tissue. It can accumulate or save for later
 - It dissolve in fat tissue
- Vitamins are
A, D, E, K

Water Soluble

- Our body is a watery environment. So, they flushed out by kidneys through urine
 - It dissolve in water
- Vitamins are
B and C
B-complex are eight
B1, B2, B3
B5, B6, B7
B9, B12. Only this can be stored in liver for many years.

Which vitamin is also a hormone?

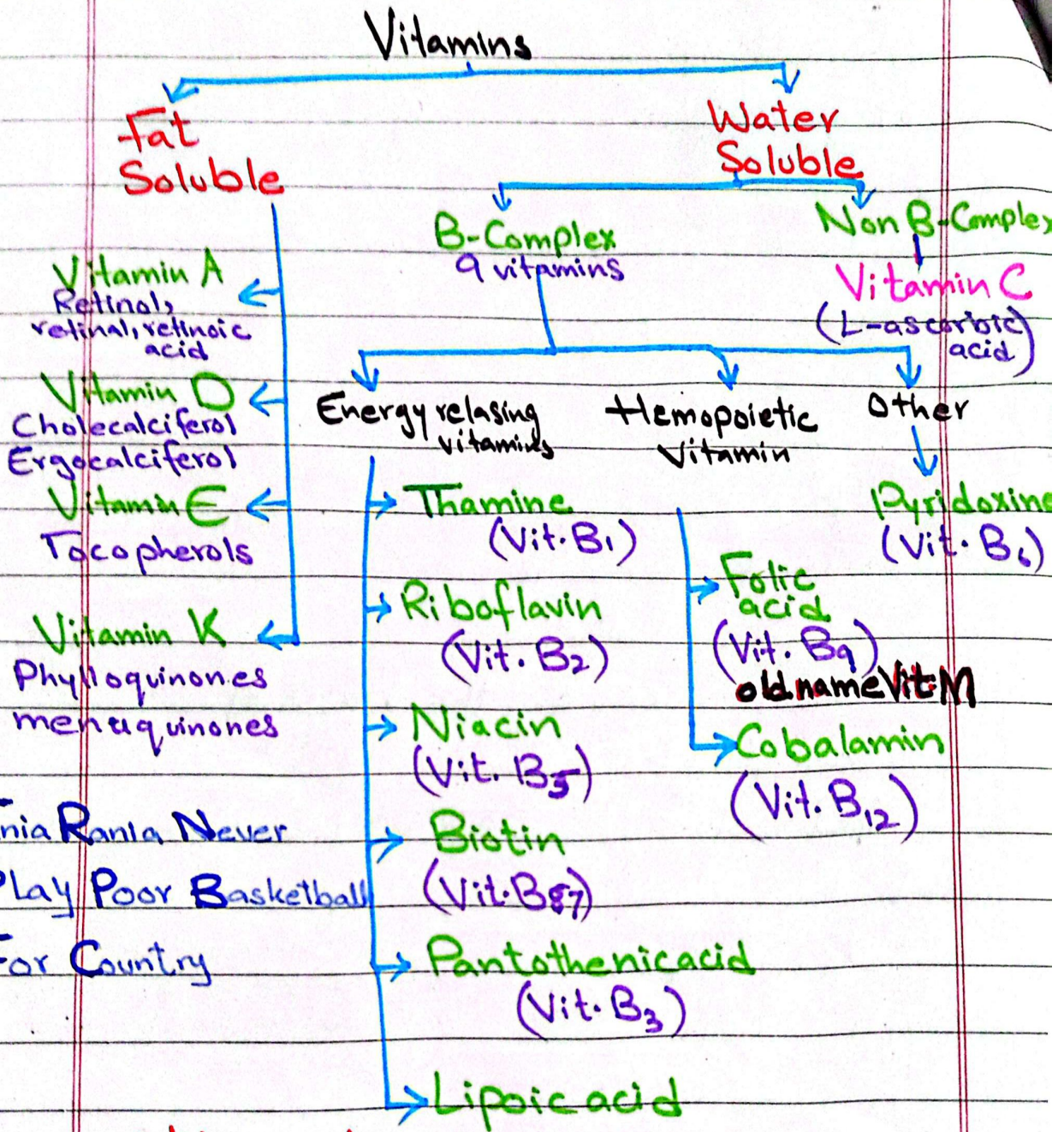
D Any synthesized by body.

Classify on the basis of synthesis:

High Sun interact effect (10/12)

- 2 branches
- Vitamins synthesized by body
 - Vitamin D
 - Sun Exposure
 - Vitamin Ca
 - Bones Ca, d
 - Take Ca from your diet
 - Phosphorus (in form of phosphate) protect this calcium.

diet → absorb + bind → deposit in bones } demineralization



Tania Ranta Never
Play Poor Basketball
For Country

Vitamin-A :-

Sources: Carrots, Papaya, Meat

Eggs, Mangoes, Avocado, Peaches

Apricot

Function:- Vision,

Skin & cellular health

Antioxidant activity

Gene transcription

Immune function.

What is Beri Beri?

Beriberi is a disease caused by vitamin (2) B1 deficiency. It often occurs in people with a diet that consists mostly of white rice or highly refined carbohydrates.



In US, occur mostly in people with alcohol use disorder & also occur complication of weight loss surgery.

Symptoms:- Wet beriberi Swollen lower legs, rapid heart rate, shortness of breath during physical activity.

Dry beriberi:- Vomiting, involuntary eye movement, paralysis, difficulty in speaking.

Causes:- Diet low in thiamine, Common in those regions of world where diet is unenriched processed with white rice, which only has a tenth of the amount of thiamine as brown rice, according to National Institutes of Health.

Risk:-

- Hyperthyroidism
- AIDS, alcohol misuse

} Common deficiency. Thiamine

- People with cancer
- who are nursing
- Restrictive diets

Day: _____ Date: _____
How is beriberi

Diagnosed?

Blood & urine test will measure level of thiamine in your body.

Neurological exam to look for symptoms like lack of coordination · difficulty walking

Physical exam like rapid heartbeat, swelling of lower legs & difficulty breathing

Treatment:-

Thiamine supplements, thiamine pill

Follow up blood test to see how well your body is absorbing the vitamin.

Prevention:-

Rich in vitamins like thiamine are:

· beans & legumes · seeds · meat · nuts · dairy

What is Pellagra? Pelle → Skin, Agra → Sour

Pellagra is a serious condition that impacts the skin, cognitive function, and digestive system. It's caused by low niacin due to malnutrition or absorption issues

Caused by low levels of niacin, also

known as Vitamin B-3. It's marked **4D's**

by **dementia, diarrhoea, dermatitis,**

death. First discovered by Spanish Don Gaspar Casal in 1735 as a disease of 3D.

Symptoms

Niacin deficiency noticeable in

body parts such as your skin or gastrointestinal tract

Dermatitis: Rash on face, lips, feet & hands. In some cases, around neck, this symptom known as

• red, flaky skin • thick, crusty, scaly • itchy, burning patches of skin

dementia symptoms are

- apath • depression • headaches • anxiety
- confusion or mood changes.

Other possible Symptoms

- decreased appetite • trouble eating & drinking
- nausea & vomiting

Causes:

Primary Pellagra: caused by diets low in niacin or tryptophan. Tryptophan can be converted to niacin in body, so not getting enough can cause niacin deficiency.

Gorn contain niacytin that human can't digest and absorb unless prepared properly.

Secondary Pellagra: occurs when your body can't absorb niacin. Things that can prevent your body from absorbing niacin include: • alcoholism • eating disorder • gastrointestinal disease such as Crohn's disease & ulcerative colitis. • carcinoid tumors

Diagnosed:

due to range of symptoms.

Difficult to diagnose? no specific test for niacin deficiency

Doctor check any gastrointestinal problem, rashes or changes in your mental state
Also test your urine.

Treatment:

Primary Pellagra is treated with dietary changes and niacin or nicotinamide Supplements.

- Early treatment, make full recovery & start feeling better within a few days of starting treatment.

Skin improvement may take several months
If left untreated, Primary Pellagra causes death

after four or five years.

Treating **Secondary Pellagra** also respond well to taking niacin or nicotinamid either orally or intravenously.

- Either Primary or Secondary, keep rashes moisturized & protected with sunscreen.

Sources of niacin

Available in Plant & animal foods.

bakers' yeast and meat (including liver)

cereals, • legumes • green leafy vegetables

• fish as well as • coffee and tea.

Niacin in plants occurs as nicotinic acid

Animal tissue mostly as nicotinamide.