

SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai

Approved by Pharmacy Council of India, New Delhi.

Coimbatore -641035

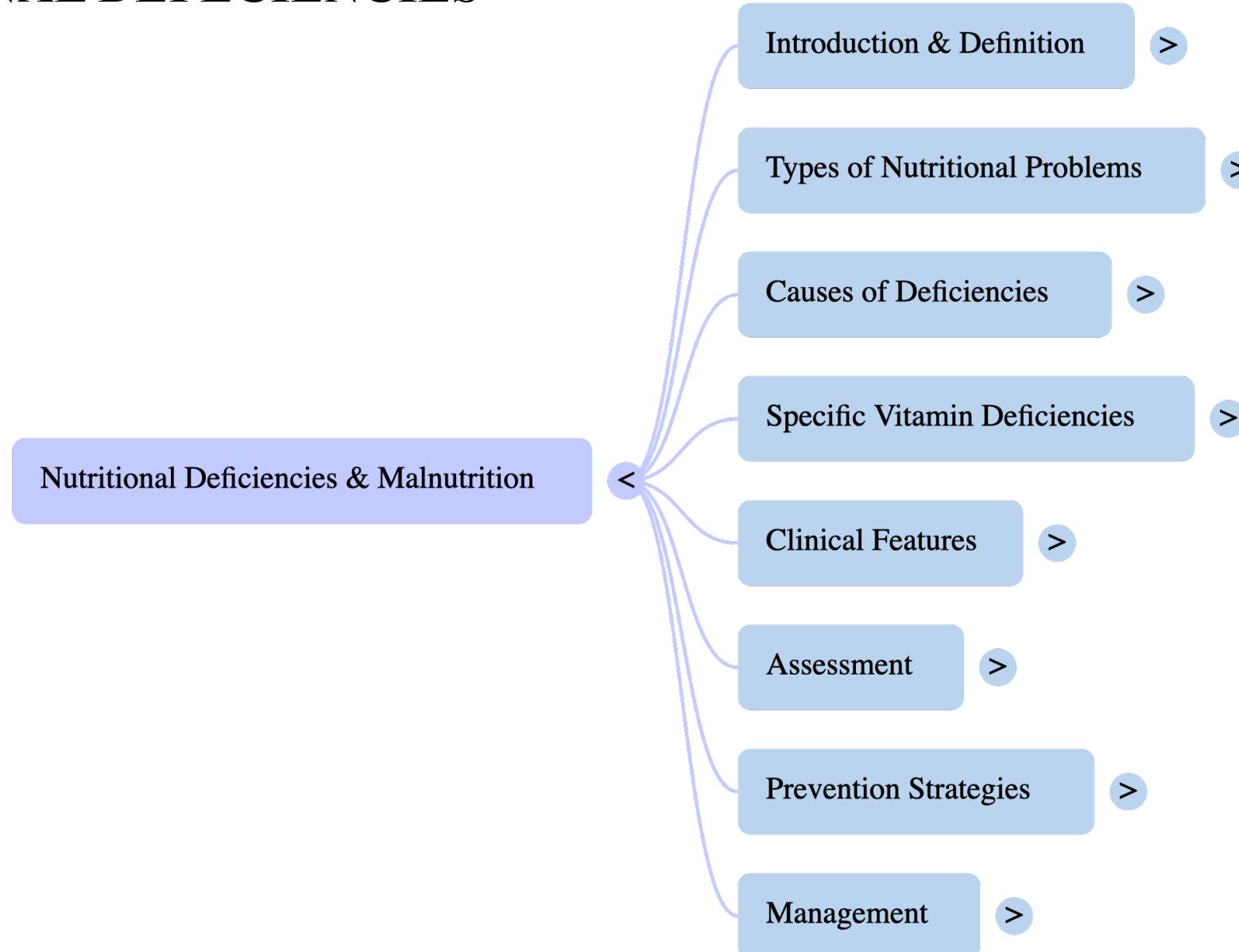
COURSE NAME : SOCIAL AND PREVENTIVE PHARMACY (BP 802 T)

B.PHARM. VIII SEM / IV YEAR

UNIT 1: TOPIC 2 : SOCIAL AND HEALTH EDUCATION

NUTRITIONAL DEFICIENCY AND MALNUTRITION

NUTRITIONAL DEFICIENCIES



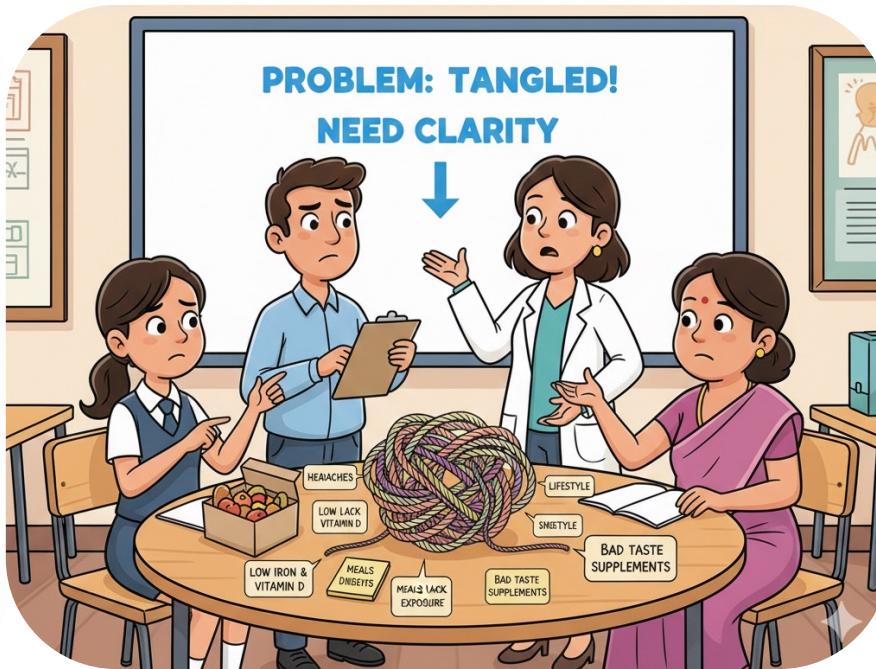
DESIGN THINKING NUTRITIONAL DEFICIENCIES

Empathy



School children with sever anemia and nutritional deficiency

Define



Problem with meals lack diversity, outdoor exposure is low, and supplements are not student-friendly.

Ideate



“Breakfast in a Box”: A weekly distribution of ready-to-eat iron-rich snacks.
“Sunshine Break”: A 15-minute daily supervised outdoor period.

DESIGN THINKING NUTRITIONAL DEFICIENCIES

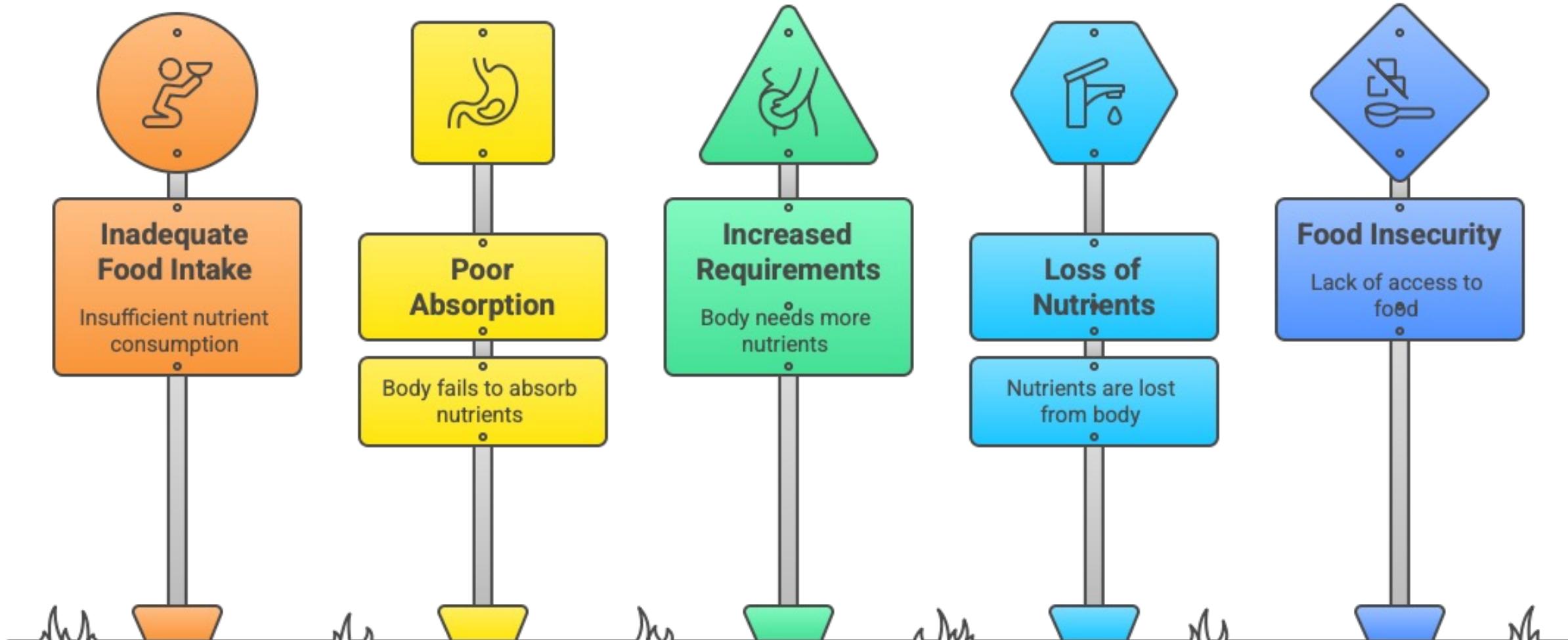
Prototype / Test



Evolve

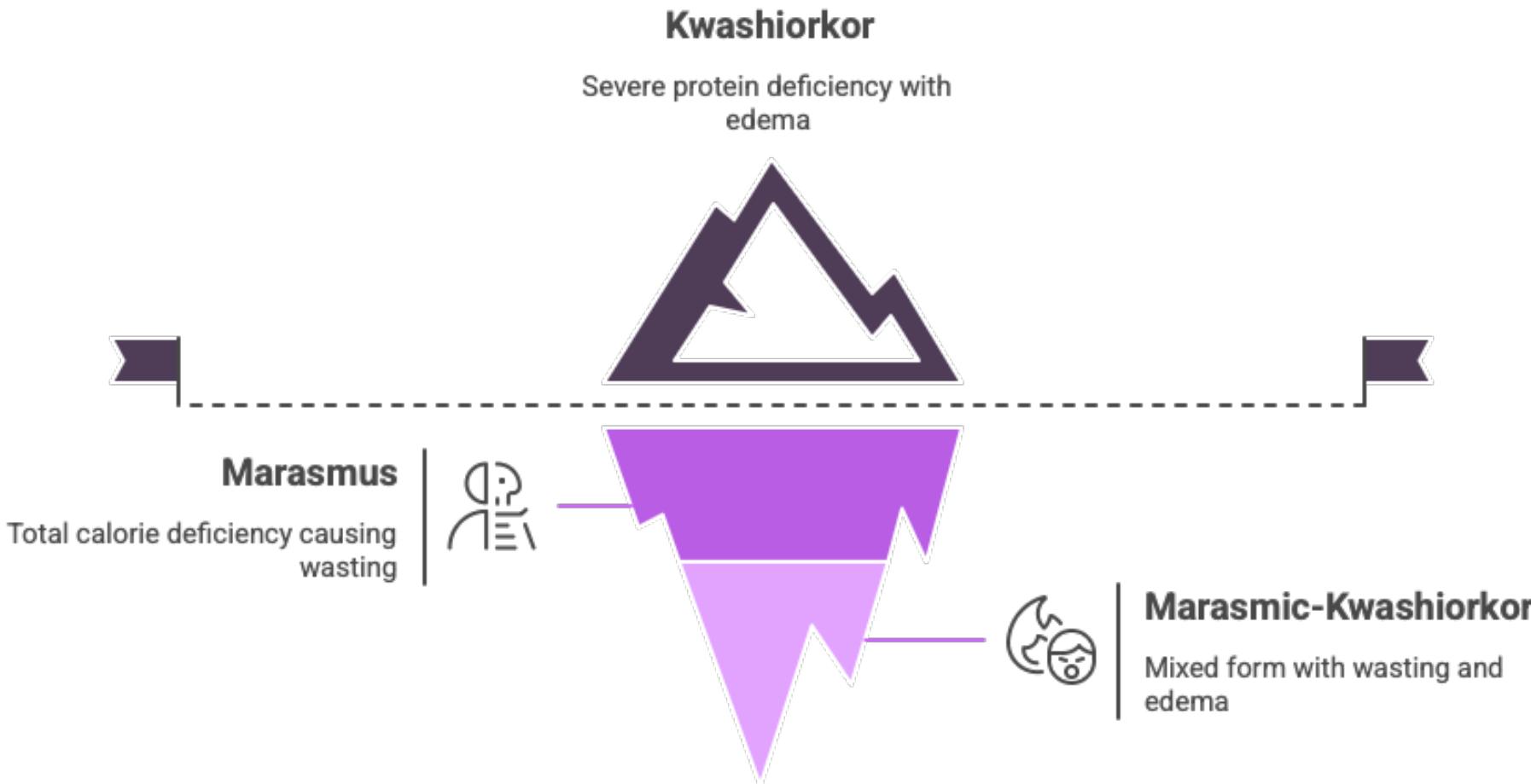


ADDRESSING NUTRITIONAL DEFICIENCIES

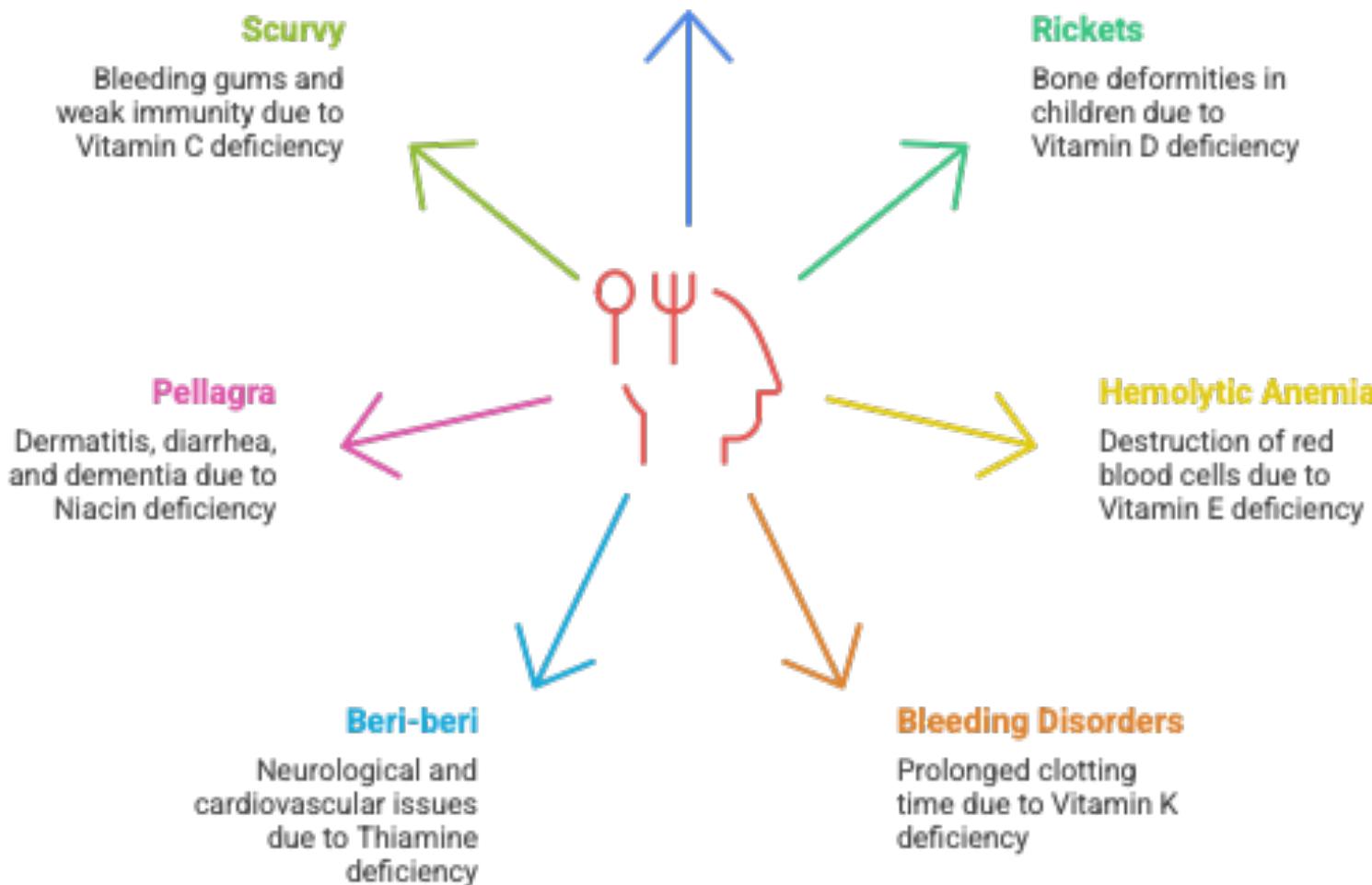


MACRONUTRIENT DEFICIENCIES

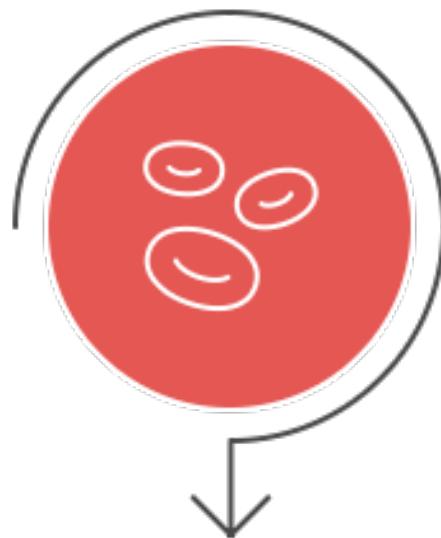
Macronutrient Deficiencies: Unveiling the Hidden Depths



VITAMIN DEFICIENCY OUTCOMES



MINERAL DEFICIENCIES



Iron Deficiency

Hemoglobin synthesis is impaired, leading to fatigue and pallor. Breathlessness may also occur.



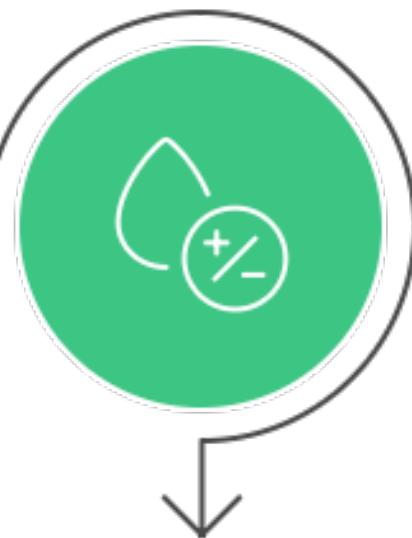
Iodine Deficiency

Thyroid hormone production decreases, causing goiter and cretinism. Hypothyroidism can also develop.



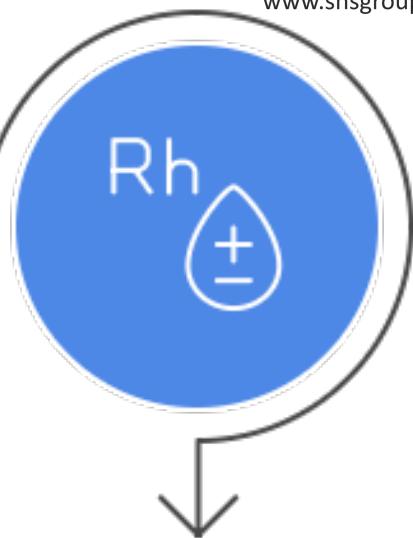
Calcium Deficiency

Bone and teeth health deteriorates, resulting in rickets and osteoporosis. Muscle cramps are also a symptom.



Zinc Deficiency

Immunity and enzyme activity are compromised, leading to poor wound healing. Hair loss and growth retardation may occur.



Sodium & Potassium

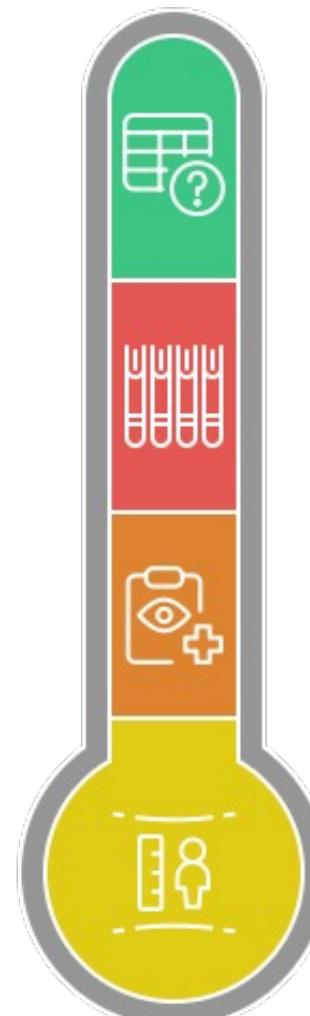
Fluid balance and nerve function are disrupted, causing muscle weakness. Cramps and arrhythmias may also occur.

NUTRITIONAL DEFICIENCIES CHALLENGES



MALNUTRITION ASSESSMENT METHOD

Complex



Simple

Dietary Assessment

Detailed recall, identifies dietary inadequacies

Biochemical Tests

Requires lab analysis, reveals nutrient levels

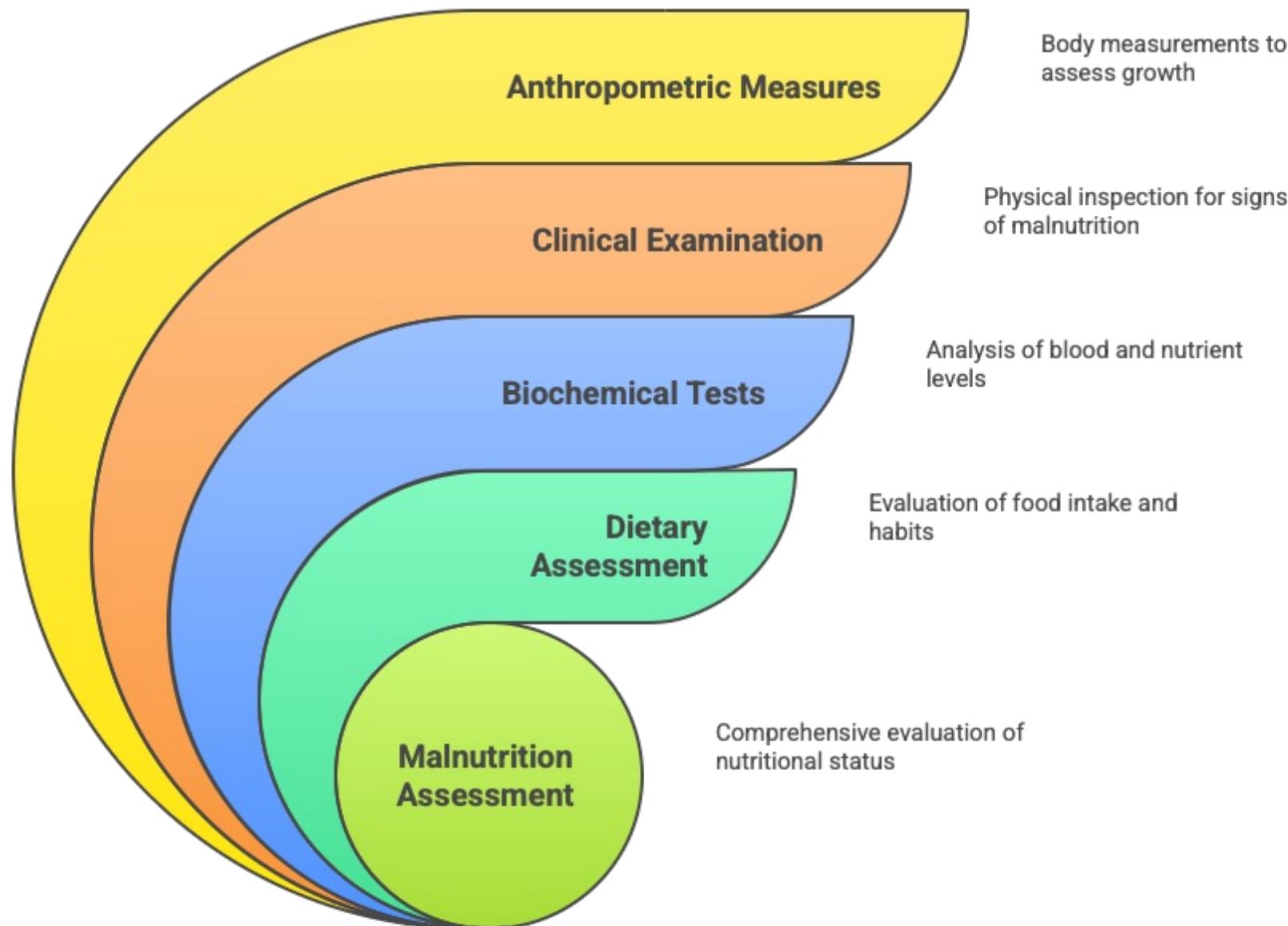
Clinical Examination

Visual inspection for signs of deficiency

Anthropometric Measures

Easy to obtain, reflects physical status

MALNUTRITION ASSESSMENT



STEPS TO PREVENT NUTRITIONAL DEFICIENCIES



Balanced Diet



Food Fortification



Supplementation

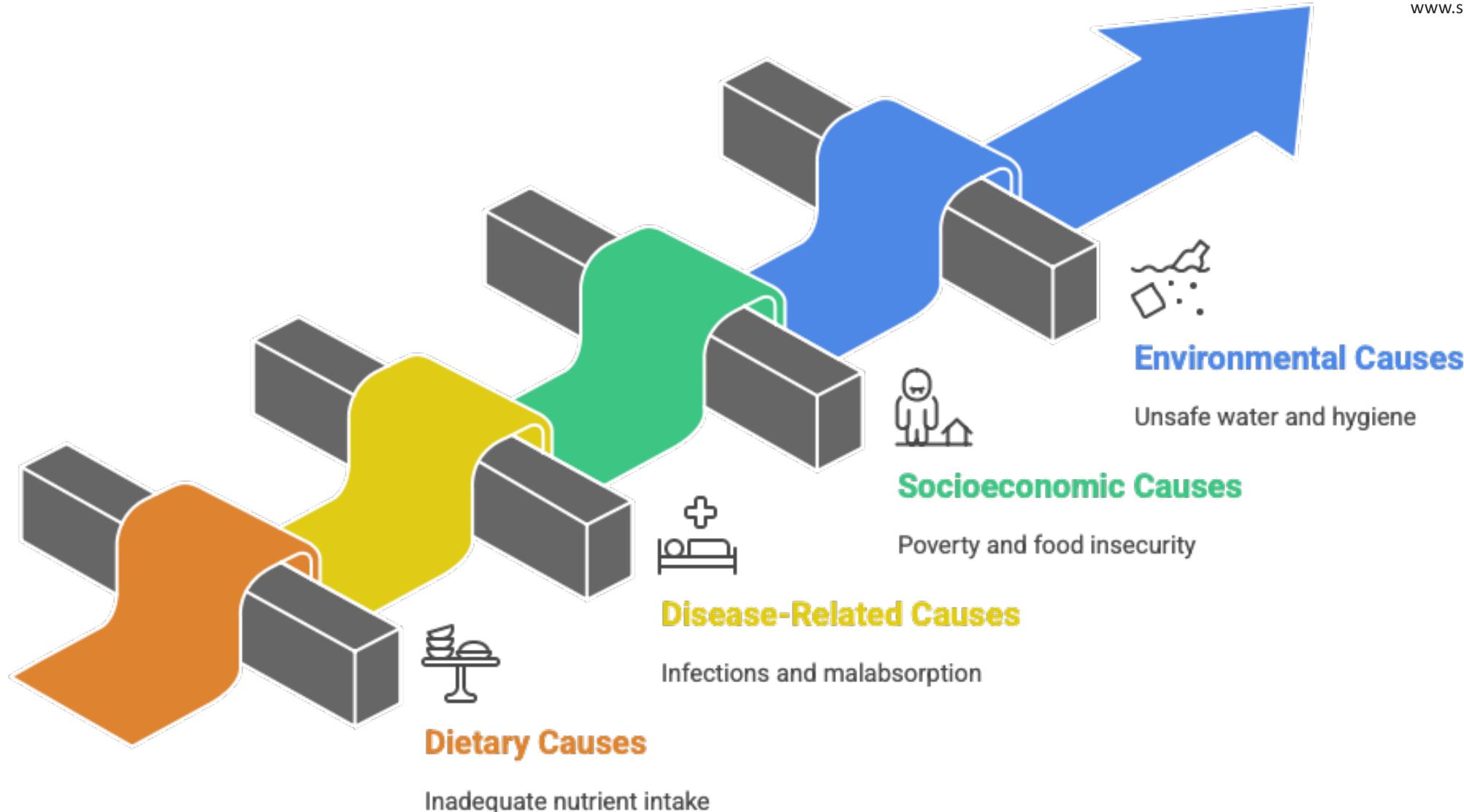


Nutrition
Education



Government
Programs

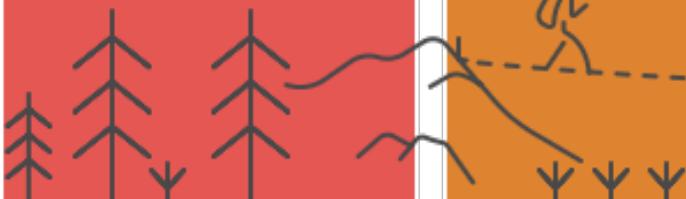
ADDRESSING ROUTE CAUSE OF MALNUTRITION



PREVENTING MALNUTRITION

Widespread Malnutrition

High rates of undernourishment



Nutrition Education

Promote balanced diets and breastfeeding



Maternal Nutrition

Improve diet during pregnancy



Food Fortification

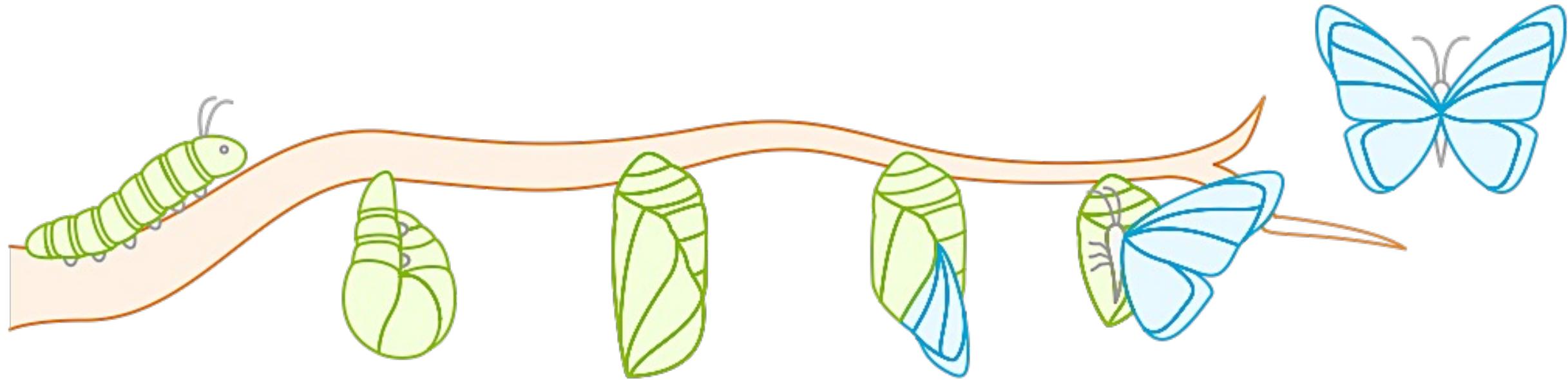
Add nutrients to common foods



Reduced Malnutrition

Lower rates of undernourishment

MANAGEMENT OF MALNUTRITION



Malnourished

Body lacking
essential nutrients

Mild/Moderate

Improved diet,
counseling,
supplements

Stabilization

Treat hypoglycemia,
hypothermia,
dehydration

Transition

Shift from F-75 to F-
100 diet

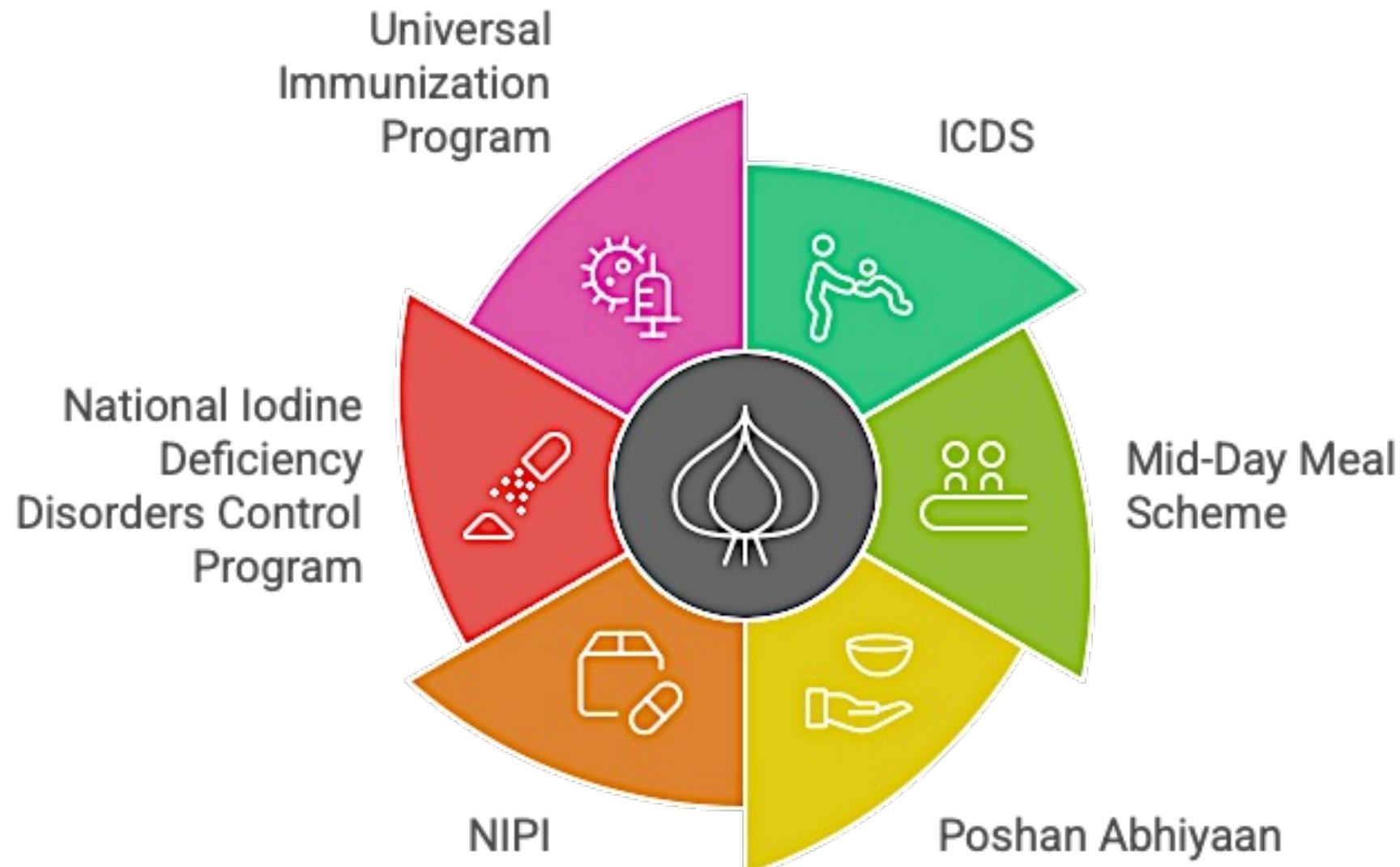
Rehabilitation

High-energy feeding,
psychosocial
stimulation

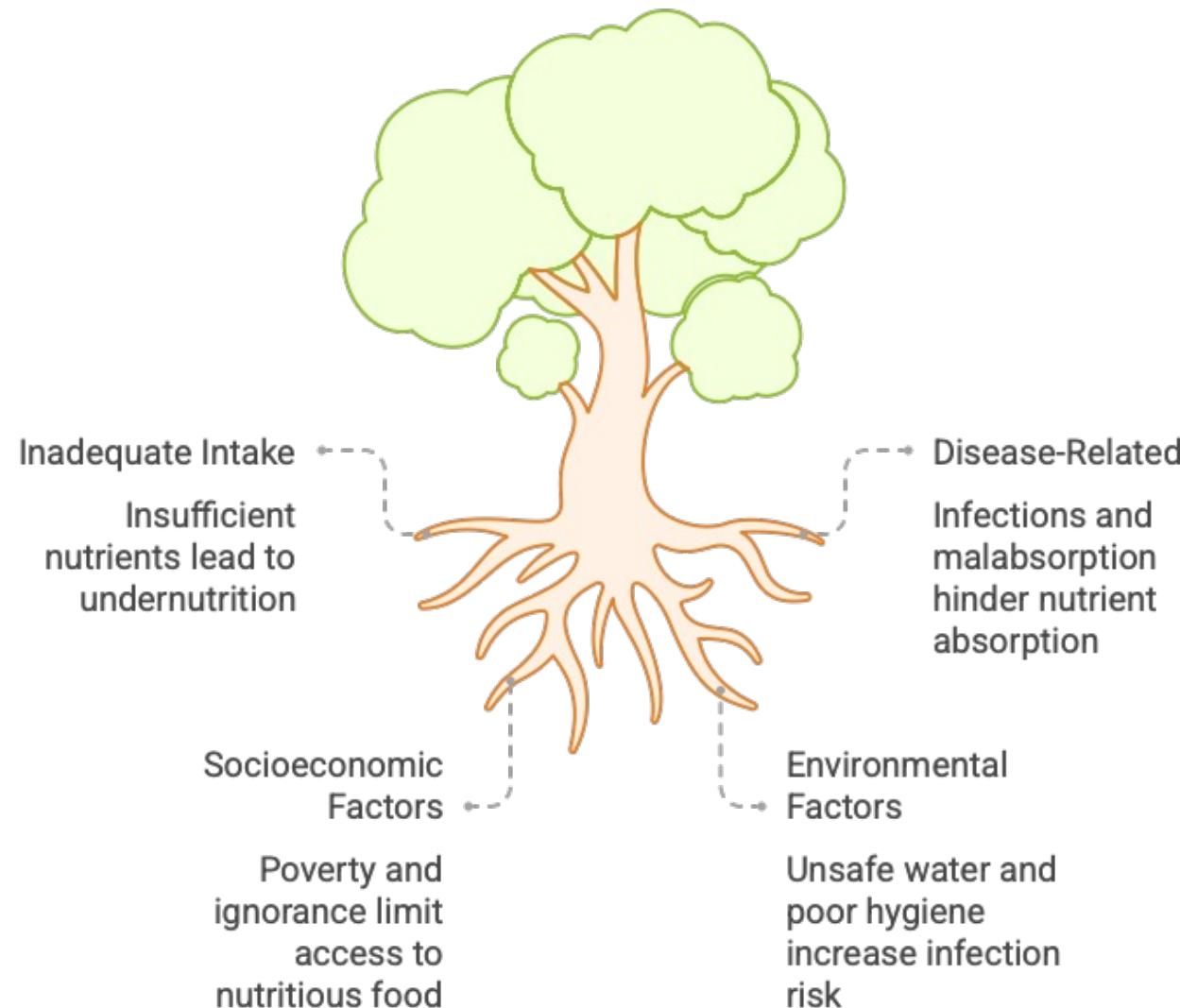
Healthy

Body replenished
with nutrients

NATIONAL NUTRITION PROGRAMME



MALNUTRITION AND HEALTH



ASSESSMENT- 1

A 7-year-old boy presents with **fatigue, shortness of breath on exertion, pale conjunctiva**, and poor school performance. His diet mainly consists of polished white rice, and he rarely eats vegetables. Hemoglobin is **8 g/dL**, and peripheral smear shows microcytic hypochromic RBCs.



Assessment Question:

1. Identify the nutritional deficiency.
2. Explain the physiological reason for fatigue in this condition.
3. Suggest *two* dietary modifications to correct this deficiency.

ASSESSMENT- 2

A



C



B

Based on the provided sources, list the vitamins required to prevent nutritional deficiencies.

D

- A.....
- B.....
- C.....
- D.....

ASSESSMENT- 3

Match the vitamins and deficiencies

Vitamins	Deficiency Disease
Vitamin A	Scurvy
Vitamin D	Beriberi
Vitamin C	Night blindness
Vitamin B1	Rickets



ASSESSMENT- 4

1. A key symptom is **bilateral pitting edema** (swelling) of the limbs and face, often due to a lack of plasma proteins like **albumin**.
2. The name is an African word, often translated as "the sickness the baby gets when the new baby comes."

What am I?



ASSESSMENT- 5

Which of the following is NOT a common cause of nutritional deficiencies?

- Poverty
- Gastrointestinal diseases
- Pregnancy and lactation
- Excessive exercise



REFERENCES

1. Short Textbook of Preventive and Social Medicine, Prabhakara GN, 2nd Edition, 2010, ISBN: 9789380704104, JAYPEE Publications
2. Textbook of Preventive and Social Medicine (Mahajan and Gupta), Edited by Roy Rabindra Nath, Saha Indranil, 4th Edition, 2013, ISBN: 9789350901878, JAYPEE Publications
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Thank you