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Q2(c)

Elucidate the different forms of malnutrition. Describe protein-calorie malnutrition with suitable examples.

UPSC Civil Services Mains 2023 · Anthropology GS 1 · 15 marks · The biological basis of Life

1.7 The biological basis of Life: The Cell, DNA structure and replication, Protein Synthesis, Gene, Mutation, Chromosomes, and Cell Division.

Core demand of the question

- Elucidate the different forms of malnutrition
- Describe protein-calorie malnutrition with suitable examples
- Write at 15-mark length

Revision summary

Forms of malnutrition are undernutrition, micronutrient shortage, overnutrition, and imbalance with infection.

PCM is protein-energy shortage, classically **marasmus** and kwashiorkor.

Cicely Williams named kwashiorkor from West African weaning oedema.

Jelliffe and Waterlow indices remain the teaching toolkit beside WHO standards.

Indian examples include NFHS stunting, drought wasting, and starchy weaning.

Policy response includes ICDS and POSHAN, but household inequality still sorts who is malnourished.

Introduction

Malnutrition is a mismatch between what the body needs and what it receives, including too little, too much, and the wrong mix of nutrients. Protein-calorie malnutrition is the severe energy-and-protein end of that mismatch in children and the sick.

Body**Forms of malnutrition**

- Undernutrition is shortage of energy or protein, seen as underweight, wasting, and stunting on **Gomez** and **Waterlow** style indices and on current WHO growth standards.
- Micronutrient malnutrition, or **hidden hunger**, is shortage of iron, iodine, vitamin A, zinc, or folate, which may sit in a child who does not look starved.
- Overnutrition is excess energy, seen as overweight, obesity, and metabolic disease, now common in Indian cities beside persistent rural undernutrition.
- Imbalance includes too little protein with enough bulk starch, or enough calories with infection that wastes the diet, so malnutrition is not only an empty granary.
- **D. B. Jelliffe** taught field workers to combine anthropometry, diet history, and clinical signs rather than trust one label.

Protein-calorie malnutrition

- Protein-calorie malnutrition, also called protein-energy malnutrition, is combined shortage of energy and protein, often with infection.
- **Marasmus** is wasting: a very low weight-for-height, old-man face, and hunger, typically in early weaning failure or famine. The child is adapted to starvation by using fat and muscle.
- **Kwashiorkor**, named by **Cicely Williams** from the Gold Coast, is oedema, fatty liver, skin and hair change, and often apathy after a starchy weaning diet that is low in protein relative to need.
- Marasmic-kwashiorkor mixes wasting with oedema and is common in real wards, which is why the two poles should not be treated as pure types only.
- Indian examples include severe wasting in drought years, tribal hamlets with high NFHS stunting, and kwashiorkor-type oedema where cassava, maize, or thin cereal gruels replace milk and pulses after weaning.
- **ICDS, POSHAN Abhiyaan**, and the Public Distribution System are the policy face of the same biology: growth monitoring, supplementary food, and infection control.

Anthropological reading

- Intra-household allocation, caste kitchens, and seasonal lean months turn a national food surplus into a malnourished girl or landless child.
- PCM is therefore ecology plus infection plus inequality, not a single nutrient slogan.

Flow diagram

Malnutrition -> Undernutrition
Malnutrition -> Micronutrient
Malnutrition -> Overnutrition
Undernutrition -> PCM
PCM -> Kwashiorkor
PCM -> Marasmus

Conclusion

Malnutrition includes under-, micro-, and over-nutrition. Protein-calorie malnutrition is **marasmus**, kwashiorkor, and their mix, and Indian field examples still sit in weaning, infection, and unequal households.

Facts & figures

Cicely Williams

Described kwashiorkor as a weaning syndrome with oedema on the Gold Coast, giving the classic PCM pole.

Marasmus

Severe wasting from energy shortage, with loss of subcutaneous fat and muscle and without the full kwashiorkor oedema picture.

Waterlow classification

Separates stunting (height-for-age) from wasting (weight-for-height) in undernourished children.

Hidden hunger

Micronutrient deficiency that can exist without obvious starvation, especially iron, iodine, and vitamin A.

NFHS / ICDS

Indian survey and programme architecture through which child undernutrition is measured and addressed.

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