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Nutrition and Community Health

Community Health Nursing

Balanced diet, nutritional requirements, nutritional assessment, malnutrition, protein-energy malnutrition, micronutrient deficiencies, nutritional surveillance and national nutrition programmes.

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CHAPTER 11 / COMMUNITY HEALTH NURSING 11. Nutrition and Community Health

1. Introduction and balanced diet

Community nutrition promotes adequate, safe and culturally acceptable food across the life course. A balanced diet provides energy, protein, fats, vitamins, minerals, fibre and water according to age, activity, physiological stage and health conditions. Food insecurity and infection can interact to worsen nutritional status.

2. Nutrients and sources

Nutrient	Major sources and role
Carbohydrate	Cereals, roots, fruits; energy (4 kcal/g)
Protein	Pulses, dairy, eggs, fish, meat; tissue repair (4 kcal/g)
Fat	Oils, nuts, seeds; energy and fat-soluble vitamin absorption (9 kcal/g)
Iron	Pulses, greens, meat; haemoglobin synthesis
Calcium	Dairy, fortified foods, selected greens; bone health
Iodine	Iodised salt; thyroid hormone synthesis
Vitamin A	Orange/green vegetables, animal sources; vision/immunity
Vitamin C	Fruit and vegetables; collagen and iron absorption

Requirements depend on age, pregnancy, lactation, illness and activity; refer to ICMR-NIN recommendations for specific RDA values.

3. Nutritional assessment: ABCD

Anthropometric: weight, length/height, BMI, MUAC and growth trends. Biochemical: Hb and selected tests based on indications. Clinical: oedema, pallor, oral/skin findings and functional status. Dietary: 24-hour recall, food frequency and household food access. No single test measures all aspects of nutrition.

4. Malnutrition and protein-energy malnutrition

Malnutrition includes undernutrition, micronutrient deficiency, overweight and obesity. Wasting is low weight-for-height, stunting low height-for-age and underweight low weight-for-age. In children 6-59 months, severe acute malnutrition can be identified by MUAC below 115 mm, weight-for-height below -3 Z scores or bilateral pitting nutritional oedema. Moderate wasting by MUAC is 115 to below 125 mm; interpret with approved protocols. [15]

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Feature	Marasmus	Kwashiorkor
Main finding	Severe wasting	Bilateral nutritional oedema
Appearance	Loss of fat/muscle	Oedema may mask weight loss
Skin/hair	May be thin/dry	Changes may occur

Both require appropriate clinical assessment. Severe wasting with complications needs urgent facility evaluation; feeding plans must follow malnutrition protocols.

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5. Micronutrient deficiencies

Deficiency	Key manifestations	Prevention
Iron	Anaemia, fatigue	Iron-rich diet, prescribed IFA, treat causes
Vitamin A	Night blindness, xerophthalmia	Diet and programme supplementation
Iodine	Goitre and developmental harm	Adequately iodised salt
Vitamin D	Rickets/osteomalacia	Diet, safe sunlight, prescribed supplementation
Folate/B12	Megaloblastic anaemia	Adequate diet and appropriate replacement

Clinical signs are not specific; refer for assessment where needed.

6. Infant and young child feeding

Early initiation when stable; exclusive breastfeeding until six months; complementary feeding from six months with suitable texture, frequency and nutrient density; continue breastfeeding up to two years or beyond. Encourage responsive feeding and food hygiene. Monitor growth, development and caregiver needs.

7. Nutrition programmes and surveillance

Saksham Anganwadi and POSHAN 2.0 support supplementary nutrition and growth-related services; PM POSHAN supports school meals; Anaemia Mukt Bharat addresses anaemia through life-stage interventions; vitamin A and IFA are provided according to programme guidance. Nutritional surveillance tracks growth, wasting, anaemia and service coverage over time. Compare age-appropriate indicators and refer children with danger signs.

8. Nursing importance

Assess diet and growth, counsel using locally available food, identify severe malnutrition, support breastfeeding, coordinate Anganwadi and referral services, maintain records and evaluate outcomes.

9. Nutrition assessment and interpretation

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Anthropometry

Weight, length or height, age, sex and MUAC are important in child nutrition assessment. Verify age and measurement technique before plotting growth charts. Weight-for-height identifies wasting; height-for-age identifies stunting; weight-for-age identifies underweight but does not alone distinguish acute and chronic undernutrition.

Indicator	Meaning
Wasting	Low weight-for-length or weight-for-height, suggesting acute undernutrition.
Stunting	Low length/height-for-age, reflecting chronic or recurrent growth restriction.
Underweight	Low weight-for-age.
Bilateral pitting oedema	Possible severe acute malnutrition; requires appropriate clinical assessment.

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10. Community nutrition care example

A two-year-old has declining weight on repeated growth measurements. Recheck measurements, assess feeding frequency and diversity, illness, appetite, food security and caregiver concerns. Check for wasting and oedema, and arrange appropriate nutritional and medical assessment. Do not wait for the next routine growth monitoring visit if severe acute malnutrition or acute danger signs are suspected.

Nutritional education

Use affordable local foods, demonstrate portion sizes and discuss age-appropriate texture. Emphasize dietary variety, adequate energy and protein, safe water and food hygiene, breastfeeding support and prescribed micronutrient interventions. Coordinate Anganwadi and health services; education alone cannot resolve food insecurity.

11. Important Examination Questions

Long Answer Questions

1. 1. Explain nutritional assessment and management of community malnutrition.
2. 2. Describe national nutrition programmes.
3. 3. Explain anthropometric indicators and the community management of a child with growth faltering.
4. 4. Discuss the role of food security and micronutrient prevention in community health.

Short Answer Questions

1. 1. ABCD
2. 2. marasmus vs kwashiorkor
3. 3. growth chart

4. 4. micronutrient deficiencies
5. 5. Stunting versus wasting.
6. 6. Bilateral pitting oedema.
7. 7. Nutrition counselling and growth chart.

Very Short Answer Questions (with answers)

1. 1. BMI formula? kg/m2.
2. 2. MUAC severe wasting threshold (6-59 months)? <115 mm.
3. 3. Complementary feeding? Six months.
4. 4. Which measure relates weight to height? - Weight-for-height.
5. 5. What is MUAC? - Mid-upper arm circumference.

12. Quick Revision

- Growth trends are more useful than isolated weight measurements.
- Wasting and stunting describe different nutritional indicators.
- Severe wasting or nutritional oedema requires prompt assessment.
- Nutrition services must address household food access.

Conclusion

Community nutrition requires both individual counselling and action on food security, infection and service access.

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Practice questions

Choose one best answer. The answer key and explanations follow the questions.

1. Which finding defines stunting in a child?

A. Low weight-for-age
B. High weight-for-height
C. Low height-for-age
D. Low weight-for-height

2. Which assessment belongs to the dietary component of nutritional assessment?

A. Haemoglobin measurement
B. Mid-upper-arm circumference
C. Examination for pallor
D. A 24-hour food recall

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3. Which finding most characteristically distinguishes kwashiorkor from uncomplicated marasmus?

A. Bilateral nutritional oedema

B. Severe loss of fat alone

C. Reduced muscle bulk alone

D. Low food intake without oedema

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Answer key and explanations

1. C - Low height-for-age

Stunting reflects low height relative to age.

2. D - A 24-hour food recall

A 24-hour recall assesses dietary intake rather than anthropometry, biochemistry or clinical signs.

3. A - Bilateral nutritional oedema

Kwashiorkor features bilateral nutritional oedema, which may conceal weight loss.

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