

2. Biochemical Measurement

- * **Useful in** indicating malnutrition or the development of diseases as a result of over consumption of nutrients. Serum and urine are commonly used for biochemical assessment.
- * **In assessment** of malnutrition, commonly tests include: total lymphocyte count, albumin, serum transferrin, hemoglobin, and hematocrit ...etc. These values taken with anthropometric measurements, give a good overall picture of an individual's skeletal and visceral protein status as well as fat reserves and immunologic response.



3. Clinical examination

- **Involves, close** physical evaluation and may reveal signs suggesting malnutrition or over consumption of nutrients.
- **Although examination** alone doesn't permit definitive diagnosis of nutritional problem, it should not be overlooked in nutritional assessment.



Nutritional assessment technique for clinical examination

A. Types of information needed

- Diet: Describe the type: regular or not, special, "e.g. teeth problem, sensitive mouth.
- Usual mealtimes: How many meals a day: when? Which are heavy meals?
- Appetite: "Good, fair, poor, too good".
- Weight: stable? How has it changed?



- Food preferences: e.g. " prefers beef to other meats"
- Food dislike: What & Why? Culture related?
- Usual eating places: Home, snack shops, restaurants.
- Ability to eat: describe inabilities, dental problems: "ill fitting dentures, difficulties with chewing or swallowing
- **Elimination**" urine & stool: nature, frequency problems
- **Exercise & physical activity**: how extensive or deficient



- Psycho social - cultural factors: Review any thing which can affect on proper nutrition
- Taking Medications which affect the eating habits
- Laboratory determinations e.g.: “Hemoglobin, protein, albumin, cholesterol, urinalyses”
- Height, weight, body type "small, medium, large"

After obtaining information, summarize your findings and determine the nutritional diagnosis and nutritional plan of care.

Imbalanced nutrition: Less than body requirements, related to lack of knowledge and inadequate food intake

Risk for infection, related to protein-calorie malnutrition



Signs & symptoms of malnutrition

- Dry and thin hair
- Yellowish lump around eye, white rings around both eyes, and pale conjunctiva
- Redness and swelling of lips especially corners of mouth
- Teeth caries & abnormal missing of it
- Dryness of skin (xerosis): sandpaper feels of skin
- Spoon shaped Nails " **Koilonychia** " anemia
- Tachycardia, elevated blood pressure due to excessive sodium intake and excessive cholesterol, fat, or caloric intake
- Muscle weakness and growth retardation





Diseases affected by nutritional problems

- 1- Obesity: excess of body fat.
- 2- Diabetes mellitus.
- 3- Hypertension.
- 4- Coronary heart disease.
- 5- Cancer.



4. Dietary analysis

- Food represent cultural and ethnic background and socio- economic status and have many emotional and psychological meaning
- Assessment includes usual foods consumed & habits of food
- The nurse ask the client to recall every thing consumed within the past 24 hour including all foods, fluid, vitamins, minerals or other supplements to identify the optimal meals
- Should not bias the client's response to question based on the interviewer's personal habits or knowledge of recommended food consumption

