

تم تحميل هذا الملف من موقع المناهج الإماراتية



*للحصول على أوراق عمل لجميع الصفوف وجميع المواد اضغط هنا

<https://almanahj.com/ae>

* للحصول على أوراق عمل لجميع مواد الصف الثاني عشر اضغط هنا

<https://almanahj.com/ae/12>

* للحصول على جميع أوراق الصف الثاني عشر في مادة علوم صحية ولجميع الفصول, اضغط هنا

<https://almanahj.com/ae/12>

* للحصول على أوراق عمل لجميع مواد الصف الثاني عشر في مادة علوم صحية الخاصة بـ اضغط هنا

<https://almanahj.com/ae/12>

* لتحميل كتب جميع المواد في جميع الفصول للـ الصف الثاني عشر اضغط هنا

<https://almanahj.com/ae/grade12>

للتحدث إلى بوت المناهج على تلغرام: اضغط هنا

https://t.me/almanahj_bot

Unit 6 – Assessment of nutritional status

Mohammad Khlaif

محمد خليف

Mohammad Khlaif

محمد خليف

Definitions

Measure: to get the size or amount of something using a device which gives standardized units.

Nutrition: the process of eating or drinking the right type of food to maintain health.

Nutritional status: the state of a person's health depending on his/her diet.

Monitor: to watch or observe something over a period of time for a special purpose.

Deficient: not having enough of something that is important or necessary.

Malnutrition: used to describe someone who has poor nutritional status, it can be underweight, or overweight, or this can even be normal weight but deficient of some vitamins and minerals.

Undernutrition: a person who doesn't get enough energy out of what they consume or simply doesn't eat enough.

- ❖ Nutritional assessment methods are used by medical professionals to assess a person's nutritional status.
- ❖ There is a lot of different techniques for nutritional assessment, and those can be carried out at any stage of a person's life. Ex: BMI for adults, Child growth assessment, nutritional deficiency assessments.
- ❖ Medical Professionals as dietitians measure the nutritional status, in order to advise the patients on how to improve their diet and health.
- ❖ The goal is to make the intake of nutrients match the nutritional needs of a person, this is called: ideal nutritional status.
- ❖ Nutritional assessment is useful because it can:
 - Identify malnourished people
 - Identify some diseases
 - Develop health programmes to meet the needs of a person or community, and measure the effectiveness of these programmes
- ❖ The 4 main categories of nutritional assessment are: (ABCD)
 - Anthropometric methods
 - Biochemical methods
 - Clinical methods
 - Dietary methods

1) A patient that has deficiency in a vitamin or a mineral like calcium or iron is called:

- a) Abnourished
- b) Undernourished
- c) Antinourished
- d) Malnourished

2) Which of the following is True about nutritional assessment?

- a) Done only for children
- b) Has very little benefits for health
- c) Used by dietitians
- d) The goal is to make the nutritional needs more than the intake

Anthropometry

It is the study of the physical measurements of the human body. Includes measuring the height, weight, as well as measuring proportions of the hips, waist, legs, arms, and skinfolds.

❖ **Waist circumference:** is the total distance around the waist. The larger it is = more abdominal fat around the middle of the body, which is associated with many non-communicable diseases

(Diabetes, Cardiovascular disease, Cancer, etc..)

	Desirable	High Risk	Very High Risk
Males	Less than 94 cm	94-102 cm	More than 102 cm
Females	Less than 80 cm	80-88 cm	More than 88 cm

❖ To measure the waist circumference:

- Place the tape at the mid-point between the top of the hip bone and the lower ribs, this can be done over the clothes.
- The tape shouldn't be too tight nor too loose.
- Abdominal muscles should be relaxed.
- The measurements should be taken after breathing out.



❖ To measure weight:

- Make sure the weighing scale is accurate and measure in kilograms (kg).
- Remove heavy items from pockets and stand with arms by the sides.

❖ To measure height:

- Make sure the measure is straight and measure in centimeters (cm).
- Remove shoes, and make sure the person is standing straight with their heels, back, and head touching the measure while looking straight ahead.
- Lower the reading bar to the top of the head so a measurement can be taken.



3) Ahmad a 35 year male had his waist circumference measured and it was 1000 mm, he wants to know if he has any cardiovascular risk according to his waist circumference?

- His waist circumference is desirable
- he has high risk
- He has a very high risk
- We can not tell the risk based on waist circumference

❖ The WHO has put growth charts to compare the height and weight of children of the same age and gender, those charts can be used for children up to the age of 19 years to follow a child's growth and identify medical problems at an early age.

❖ There are charts for different age groups: 0-2 years, 2-5 years, 5-19 years, as well as charts for males and others for females

4) Which of the following is needed to use a height growth chart for a child?

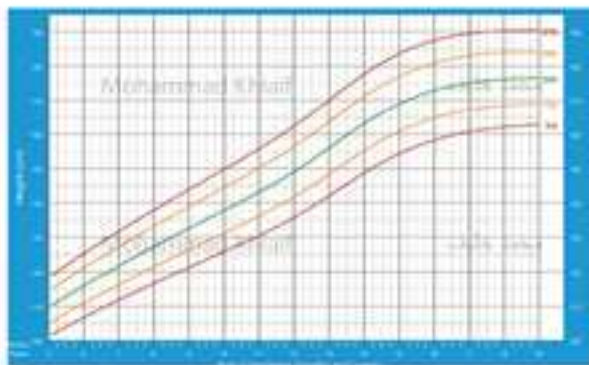
- Age
- Gender
- Height
- All of the above

❖ Percentiles are the colored lines in the chart, they show how many other people are taller, shorter and of the same height.

❖ 50th percentile is the average and means that 50% of people of the same age and gender are the same height or taller.

❖ 97th percentile means that only 3% are at the same height or taller.

❖ 3rd percentile means that 97% are at the same height or taller.



5) A 13 years old female has only 15% of other 13 years old females taller than her is at what percentile according to WHO growth charts?

- 85th percentile
- 15th percentile
- 13th percentile
- 50th percentile

❖ Growth charts can be used by health care professionals to identify if there is a growth problem that can be related to malnutrition.

BMI and Fat percentage

Is a measurement of a person's height in relation to their weight, which is used to identify the weight status.

$$\text{BMI} = \text{weight (kg)} \div \text{height}^2 (\text{m}^2)$$

❖ According to the BMI, people will fall into one of the weight status categories:



6) Sara weighs 74 kg and her height is 1.61 m . in which category is she?

- Underweight
- Normal
- Overweight
- Obese

7) High BMI means:

- a) High fat, low muscle
- b) High muscle, low fat
- c) High muscle, high fat
- d) We can't tell the percentage of muscle and fat



8) Which of the following is False about fat?

- a) All types of fat are bad
- b) Fat help keep the body warm
- c) Fat protect body organs
- d) Fat provide energy to the body



There are methods used for measuring body fat, and those are:

- 1. DEXA scanner: uses x-ray to show the body's fat mass, muscle mass, and bone density.
- 2. Skinfold thickness: uses callipers to measure areas of skin that can fold when pinched (skinfolds) at various parts of the body.

3. Bioelectrical impedance analysis (BIA): uses weak electrical impulse that the person doesn't feel.



To calculate the body's fat percentage we use the following formula:

$$\frac{\text{Body fat}}{\text{TBW}} \times 100$$

9) Which of the following is not needed to use a fat percentage chart?

- a) Age and gender
- b) Height
- c) Body fat
- d) Total body weight

The result falls in one of the four categories: blue, green, amber, and red.

Underweight

Too little body fat

Healthy

Normal body fat

Excess fat

Above the healthy percentage of body fat

high body fat

So much body fat

10) Maha's is 22 years old, her body fat is 14kg and her total body weight is 58kg. Which of the following is her body fat percentage?

- a) $22/14 \times 58$
- b) $14/22 \times 100$
- c) $100 \times 14/58$
- d) $58/14 \times 100$

Biochemical Methods

They are the laboratory measurements of nutritional assessment, which involve testing blood and urine samples.

❖ To understand the results of the biochemical measurements correctly, some things about the patient need to be known, which are:

- Mo: a) Previous medical history
- Current medication
- A clinical examination report

Mohammad Khalf

❖ Biochemical methods are the most accurate for assessing nutritional status, because they show exactly how much of a certain nutrient is present. It also shows if a nutrient is deficient by looking at their biochemical markers even before the patient develops symptoms.

11) Which of the following nutritional assessment methods use blood samples for assessment?

- Mo: a) Anthropometry
b) Biochemical methods
c) Clinical methods
d) Dietary methods

Mohammad Khalf

12) Which of the following is True about Biochemical methods?

- Mo: a) They are not very accurate
b) They measure body nutrients by skin fold callipers
c) Knowing the previous medical history of the patient is not needed
d) The patient doesn't need to remember what they ate or how much of it

Mohammad Khalf

Clinical methods

Are basically the physical examination done for the patient, looking for some physical clues related to health problems that result from malnutrition. These clues can be felt or seen.

❖ Body parts to be examined are:

- Mo: - Skin
- Eyes
- Nails, may be indented due to iron deficiency anemia
- Hair, may be pulled out very easily due to low protein
- Mouth and gums, may be sore with bleeding due to vitamin and mineral deficiency
- Bones and joints, may have Rickets due to vitamin D deficiency

Mohammad Khalf



Rickets

13) Which of the following methods look for physical clues on nails to assess the nutritional status?

- Mo: a) Anthropometry
b) Biochemical methods
c) Clinical methods
d) Dietary methods

Mohammad Khalf



Mohammad Khalf

Mohammad Khalf

❖ Before performing a physical examination, medical professionals should:

- obtain the patient's medical history
- ask about previous and current medical conditions
- ask the patient if he/she takes any medication or nutritional supplements
- ask the patient if he/she has diarrhea or other digestive issues
- ask about the patient's financial and social resources

>> Then, an examination is performed looking for physical appearance, signs of infection, etc..

Dietary methods

This is where the patient record their eating patterns or the food and drinks that they consumed in a given period of time.

❖ The most common ways to measure dietary intake are:

1. Twenty-four-hour dietary recall: Usually from midnight to midnight.

- The patient needs to recall the ingredient used, the cooking method used, the time of day they had it, the amount of food they ate, and if they had any leftovers.

• Advantages:

- The information is easy to recall and collect, and it doesn't take time whether done on phone or in person.
- The information provided can estimate regular food and nutrient intake.

• Disadvantages:

- It relies on memory, some people have difficulty recalling how much they ate or leftover.
- If the patient ate in a restaurant, they may not know the cooking method or the ingredients.
- This doesn't show the patient's regular eating habits.
- Some patients may not give honest responses.

2. Three-day food diary: 2 weekdays and one weekend day.

- The patient needs to record the same information needed in the 24 hour dietary recall method, but that should be recorded in real-time not from memory. Also weights of foods should be measured by scales. Thus, its more accurate than the 24 hour method.

• Advantages:

- More details are recorded (three days, weights of meals).
- Does not rely on memory.

• Disadvantages:

- Requires high level of commitment (three days, weights of meals).
- People may not record some small meals or some ingredients.
- People may change their eating habits for these three days.

14) Which of the following is Not needed in the 24 hour method?

- a) The cooking method used
- b) The weight of the food eaten
- c) The ingredients of the meals
- d) The leftovers

15) Which of the following is a disadvantage of the Three-day diary method?

- Some people may forget what they ate
- It only measures the food intake for one day
- Is less accurate than the 24 hour method
- People may not record some small snacks

3. Food frequency questionnaire (FFQ):

- It is a set of multiple choice questions that includes information about the portion size and how often is food eaten.
- It is useful for analyzing the intake of a small number of foods.
- Advantages:
 - It is quick and easy to do, and can be used on large groups of people.
- Disadvantages:
 - Specific foods are listed.
 - Some people eating's pattern of certain food isn't consistent.
 - Requires good memory

FOODS AND AMOUNTS	AVERAGE USE LAST YEAR								
	Never or less than once/month	1-3 per month	Once a week	2-4 per week	5-6 per week	Once a day	2-3 per day	4-5 per day	6+ per day
BREAD AND SAVOURY BISCUITS (one slice or biscuit)									
White bread and rolls						✓			
Brown bread and rolls				✓					
Wholemeal bread and rolls	✓								
Cream crackers, cheese biscuits		✓							
Crispbread, eg. Ryvita		✓							
CEREALS (one bowl)									
Porridge, Readybrek				✓					
Breakfast cereal such as cornflakes, muesli etc.					✓				

16) Which of the dietary methods doesn't require good memory recalling?

- 24 hour method because they are only for 1 day
- Body mass index
- Three day diary method
- Food frequency method

17) Which of the following is True about dietary methods of nutritional assessment?

- The FFQ is a close-ended dietary method
- Their main disadvantage is that they take too much time
- Dietary methods are the most accurate nutritional assessment methods
- The 24 hour method helps show the eating patterns of the person