Diploma in Human Nutrition Assignment 4

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Module 4 Assignments

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Abstract

A healthy weight is defined as the appropriate body weight in relation to height and is characterised by: Following a healthy lifestyle, bursting with energy, being close to your goal and your weight is stable, having slow resting heart rate and having a healthy waist circumference

The basal metabolic rate (BMR) is the amount of energy that is expended at rest in a neutral environment after the digestive system has been inactive for about 12 hours. It is the rate of one’s metabolism when waking in the morning after “fasting” during sleep. The higher it is, the more calories you burn and the easier it is to lose weight and keep it off.

Obesity and overweight have assumed epidemic proportions in the region of the Americas due to: Restaurant dining, lack of physical education, lack of sidewalks and the built environment and high fructose corn syrup consumption.

Malnutrition refers to deficiencies, excesses or imbalances in a person’s intake of energy and/or nutrients. The two types of malnutrition include: Protein-energy malnutrition - resulting from deficiencies in any or all nutrients and Micronutrient deficiency diseases - resulting from a deficiency of specific micronutrients.

Keywords

Healthful weight, Basal Metabolic Rate, Societal factors, Obesity, Overweight, Malnutrition, Community, Body Mass Index

1. **Introduction**

This coursework;

1. Identifies four characteristics of a healthful weight.
2. Explains whether you can increase your basal metabolic rate or if it is wise to try and if so, why it is wise.
3. Identifies four societal factors that may have influenced the rise in obesity rates in the United States since 1963.
4. Gives advice and recommendations to Misty who joined for lunch, is not overweight and confesses that she is discouraged about her weight. She says that she has been trying “really hard” for 3 months to lose weight but that no matter what she does, she cannot drop below 148 lb. What questions would you suggest she think about? How would you advise her?
5. Names the different kinds of malnutrition and then describes the signs that might tell you that childhood malnutrition is a problem in the community

**Q1. Identify at least four characteristics of a healthful weight.**

For **adults**, a healthy weight is defined as the appropriate body weight in relation to height. Body Mass Index (BMI) is calculated from your height and weight and is a useful measure of overweight and obesity. People who are overweight (BMI of 25 to 29.9) have too much body weight for their height.

People who are obese (BMI of 30 or above) almost always have a large amount of body fat in relation to their height. There are exceptions, of course. Big athletes with lots of muscle might have a BMI over 30, but may still have a healthy body composition. They would not be considered obese from the perspective of health risk.

For **children and teens**, overweight is defined differently than it is for adults. Children are still growing, and boys and girls develop at different rates. So, BMI for children 2 to 20 years old is determined by using a BMI chart that compares their weight and height along with growth charts. The growth charts use a child's BMI, age, and sex to produce a BMI percentile.

A child's BMI percentile shows how his or her BMI compares with other boys or girls of the same age. A child or teen that is between the 85th and 95th percentile on the growth chart is considered at risk of overweight. A child or teen that is at the 95th percentile or above is considered overweight. For children, BMI is used to screen for overweight, healthy weight, or underweight. For example, a child may have a high BMI for age and gender, but to determine if excess fat is a problem, a health care provider would need to perform further assessments.

A BMI percentile will not tell you if your child has or will get a disease. However, you should ask your family doctor, paediatrician, or other health care provider about your child's BMI percentile and whether they are at risk for disease. **Via www.cdc.gov/nccdphp/dnpa/bmi/bmi-for-age.htm**

Below are characteristics of people with healthful weights:

* **Following a healthy lifestyle**

Despite the fact that you make healthy living a priority, being healthy is more about having toned muscles and less about weight. People with healthful weight regularly lift weights, do cardio, and eat a healthy diet. People with healthful weight feel great and make can their body reach whatever weight it ‘naturally’ wants to be to stay healthy.

* **You’re bursting with energy**

People with healthful weight can typically get through the day without drinking four cups of coffee or caffeine-packed sodas. People at a healthy weight are less likely to experience excessive daytime sleepiness than obese individuals.

* **You’re close to your goal and your weight is stable**

People in good health are relatively close to their goal weight, and have been staring down at the same number on the scale for years. Your body is probably happy right where it is even if you think there’s room for improvement. When you have a healthy body weight, your current weight should be fairly stable and you shouldn’t constantly be losing or climbing.

* **Consider your resting heart rate**

People with healthful weight have overall health including their resting heart rate, which is the number of times our heart beats per minute when sitting still. While a lower resting heart rate is a sign that your heart is working efficiently, a high resting heart rate could be an early warning sign of heart problem. A healthy heart beat range is between 60 and 100 beats per minute with the lower the number indicating better physical fitness independent of weight.

* **You have a healthy waist circumference**

People with their middle body a home to excess fat may be at a higher risk of heart disease, type 2 diabetes, and other chronic diseases. A healthy waist circumference for men is less than 40 inches, and women should aim for less than 35 inches. **Dana Leigh Smith, 8 signs you are already at healthy weight, via https//www.rd.com/author/sw-60525/**

**Q2. Can you increase your basal metabolic rate? Is it wise to try? Defend your answer.**

The basal metabolic rate (BMR) is the amount of energy that is expended at rest in a neutral environment after the digestive system has been inactive for about 12 hours. It is the rate of one’s metabolism when waking in the morning after “fasting” during sleep.

The BMR is enough energy for the brain and central nervous system, heart, kidneys, liver, lungs, muscles, sex organs, and skin to function properly.

Yes, you can increase your basal metabolic rate. The higher it is, the more calories you burn and the easier it is to lose weight and keep it off. Having a high metabolism can also give you energy and make you feel better.

People who are overweight or obese do not necessarily have a slow BMR. In fact, their BMR is usually faster to accommodate for extra fat and for their body to work harder to perform normal body functions. Building lean muscle mass can increase BMR, but there is a limit for both men and women as to how much lean muscle mass can be built. Some supplements may increase BMR, but also only to a limit, and they may have serious side effects. **Jacqueline B, 2013**

Expending extra calories through increased physical activity is the most sensible way to increase metabolism. When a person diets, BMR slows down to conserve energy and protect vital organs. A regimen of reasonable dieting with increased exercise maintains or increases BMR and promotes weight loss and weight maintenance. It all depends on calories and caloric balance.

Normal BMR ranges from negative 15% to positive 5%, most hyperthyroid patients having a BMR of positive 20% or better and hypothyroid patients commonly having a BMR of negative 20% or lower. Different clinical states are known to alter BMR. Fever, pregnancy, pheochromocytoma, adrenergic agonist drugs, cancer, congestive heart failure, acromegaly, polycythemia, and Paget’s disease of the bone are known to increase BMR. Obesity, starvation or anorexia, hypogonadism, adrenal insufficiency, Cushing’s syndrome, immobilization, and sedative drugs are known to decrease BMR. **Roy E. Weiss, 2016**

**Q3. Identify at least four societal factors that may have influenced the rise in obesity rates in the United States since 1963.**

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. A crude population measure of obesity is the body mass index (BMI), a person’s weight (in kilograms) divided by the square of his or her height (in metres). A person with a BMI of 30 or more is generally considered obese. A person with a BMI equal to or more than 25 is considered overweight.

Overweight and obesity are major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer. Once considered a problem only in high income countries, overweight and obesity are now dramatically on the rise in low- and middle-income countries, particularly in urban settings.

Obesity and overweight have assumed epidemic proportions in the region of the Americas, which now has the highest prevalence of all the World Health Organization regions: 62% of adults are overweight or obese. This epidemic has not spared children and adolescents, and 20% to 25% are affected by overweight or obesity.

Consequences of obesity include an increase in the risk of asthma, type-2 diabetes, sleep apnea, heart disease, musculoskeletal disorders, and low self-esteem. In addition, children who are overweight have a higher risk of being overweight or obese as adults. For the first time, life expectancy may be lower for one generation than for the previous one.

Here are four societal factors that may have influenced the rise in obesity rates in the United States since 1963.

* **Restaurant Dining**: Restaurant dining and fast-food restaurant dining in particular have been considered as major contributors to the obesity epidemic. Yet, Anderson and Matsa (2008) conducted an analysis of a nationally representative sample of 3- day food records and found that while diners at fast food restaurants ate roughly 200– 300 kcal more during restaurant meals, they largely compensated by eating less at other occasions such that the net increase in energy intake associated with restaurant dining was extremely small (i.e., 24 kcal on days in which someone ate in a restaurant).
* **Physical Education:** A reduction in the frequency of physical education (PE) is a major contributor to obesity. Yet the evidence that PE frequency has decreased is itself questionable (Sturm, 2005) and some studies in children report that the frequency of participation in sport has increased (Salmon et al 2003). Regardless of changes in frequency of PE offerings or participation, much evidence suggests that standard PE classes have no appreciable impact on obesity levels (Cawley et al., 2007).
* **Sidewalks and the Built Environment**: Some have suggested that aspects of the ‘built environment”, especially lack of sidewalks decreases walking which in turn increases obesity. Yet, when Miles et al (2008) compared “walking and obesity rates in two African-American neighborhoods that are similar in urban form but different in level of neighborhood disadvantage”, they found that “levels of leisure walking and physical activity were not higher, and rates of obesity were not lower in the non-poor neighborhood with better maintenance, more sidewalks and recreational facilities.”
* **High-Fructose Corn Syrup Consumption (HFCS):** HFCS consumption (but not necessarily fructose per se) has increased substantially in the last several decades and has been speculated to be a contributor to the obesity epidemic (Bray et al 2004; Welsh et al 2005). Yet, a critical review (Forshee et al., 2007) and a recent position paper from the American Medical Association concluded “Because the composition of HFCS and sucrose are so similar, particularly on absorption by the body, it appears unlikely that HFCS contributes more to obesity or other conditions than sucrose” **(American Medical Association, 2008).**

**Q4.** **Your friend Misty joins you for lunch and confesses that she is discouraged about her weight. She says that she has been trying “really hard” for 3 months to lose weight but that no matter what she does, she cannot drop below 148 lb. Based on her height, you know Misty is not overweight, and she exercises regularly. What questions would you suggest she think about? How would you advise her?**

Because weight is influenced by energy (calories) consumed and expended, interventions to improve weight can support changes in Misty’s diet or physical activity. They can help change individuals’ knowledge and skills, reduce exposure to foods low in nutritional value and high in calories, or increase opportunities for physical activity. Interventions can help prevent unhealthy weight gain or facilitate weight loss among obese people. They can be delivered in multiple settings, including health care settings, worksites or schools.

Advise to Misty…..

Reaching and maintaining a healthy weight is good for your overall health. This will help you prevent and control many chronic or diet-related diseases and conditions. Follow these steps to know if you are at a healthy weight.

**Calculate Your Body Mass Index (BMI)**

Weigh yourself and figure out your body mass index (BMI\*). BMI shows if your weight is in the healthy range for people of your height. Calculate it at http://nhlbisupport.com/bmi/bminojs.htm by following these steps:

* Type your height and weight into the boxes and click “Submit.” Your calculated BMI will appear on the right side of the screen.
* Compare your BMI with these: Healthy weight = 18.5 - 24.9 Overweight = 25 - 29.9, Obese = 30 or greater

**Measure Your Waist**

If most of your fat is around your waist, you are at greater chance for developing risk factors for heart disease and diabetes. Measure your waist by placing a measuring tape comfortably around it. Your waist measurement is high if it is:

* Greater than 35 inches for women
* Greater than 40 inches for men

**Take Action for Waist and Weight Measurement**

Take this Action If your weight and waist measurement are at a healthy level

* Keep up the good work and try to not gain any weight.

If you are overweight

* Be sure not to gain more weight.
* Lose weight if you have two or more heart disease risk factors OR if your waist measurement is high.
* Ask your doctor or a registered dietitian for help. If you are obese
* You need to lose weight. Take steps to lose 1 to 2 pounds per week.
* Ask your doctor or a registered dietitian for help.

**Q5. Can you name the different kinds of malnutrition and then describe the signs that might tell you that childhood malnutrition is a problem in your community?**

Malnutrition refers to deficiencies, excesses or imbalances in a person’s intake of energy and/or nutrients. The term malnutrition covers 2 broad groups of conditions. One is ‘undernutrition’—which includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals). The other is overweight, obesity and diet-related none communicable diseases (such as heart disease, stroke, diabetes and cancer).

Malnutrition results from a poor diet or a lack of food. It happens when the intake of nutrients or energy is too high, too low, or poorly balanced.

In many parts of the world, malnutrition results from a lack of food. In some cases, however, undernourishment may stem from a health condition, such as an eating disorder or a chronic illness that prevents the person from absorbing nutrients.

**Types of malnutrition**

There are two major types of malnutrition:

* Protein-energy malnutrition - resulting from deficiencies in any or all nutrients
* Micronutrient deficiency diseases - resulting from a deficiency of specific micronutrients

**Protein-energy malnutrition**

There are three types of protein-energy malnutrition:

*Table 1: Types of protein-energy malnutrition*

|  |  |  |
| --- | --- | --- |
| **Type** | **Appearance** | **Cause** |
| Acute malnutrition | Wasting or thinness | Acute inadequate nutrition leading to rapid weight loss or failure to gain weight normally |
| Chronic malnutrition | Stunting or shortness | Inadequate nutrition over long period of time leading to failure of linear growth |
| Acute and chronic malnutrition | Underweight | A combination measure, therefore, it could occur as a result of wasting, stunting, or both |

*Source: Article ‘What you need to know’ Last updated Mon 4 December 2017 By Christian Nordqvist*

Wasting and stunting are very different forms of malnutrition. Stunting is chronic and its causative factors are poorly understood. Stunting usually does not pose an immediate threat to life and is relatively common in many populations in less-developed countries. This is not to say that it is unimportant, just less important than wasting in humanitarian emergencies. Wasting results from an acute shortage of food, is reversible with refeeding, and has a relatively high mortality rate. For these reasons, wasting is the highest priority form of malnutrition in humanitarian emergencies. **What is malnutrition? (2016, July 8).**

**The signs that might tell you that childhood malnutrition is a problem in our community**

Malnutrition during childhood can lead not only to long-term health problems but also to educational challenges and limited work opportunities in the future. Malnourished children often have smaller babies when they grow up. It can also slow recovery from wounds and illnesses, and it can complicate diseases such as [measles](https://www.medicalnewstoday.com/articles/37135.php), [pneumonia](https://www.medicalnewstoday.com/articles/151632.php), [malaria](https://www.medicalnewstoday.com/articles/150670.php), and [diarrhea](https://www.medicalnewstoday.com/articles/158634.php). It can leave the body more susceptible to disease.

**Signs of undernutrition among children in community** [**include**](http://www.nhs.uk/conditions/Malnutrition/Pages/Introduction.aspx)**:**

* Not growing at the expected rate or not putting on weight as would normally be expected (faltering growth)
* Changes in behaviour, such as being unusually irritable, slow or anxious
* Low energy levels and tiring more easily than other children. **Symptoms of malnutrition. (2017, February 17).**

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