**YEAR 10 HOME ECONOMICS**

**LESSON NOTES**

**WEEK 8**

**LESSON 47**

**STRAND**: **HEC 10.2 FOOD AND NUTRITION**

**SUB STRANDS: HEC 10. 2.2 What is Food**

**CLO: HEC 10.2.2.2 Illustrate through discussion the digestion, absorption and utilization of food**

**DIGESTION OF FATS, CARBOHYDRATES AND PROTEINS**

* Proteins are broken down to amino acids.
* Carbohydrates are broken down to glucose, fructose, and galactose.
* Fats are reduced to fatty acids and glycerol.

**Absorption:**

* Is the process by which the products of digestion pass through the walls of the small intestine or digestive tract into the blood stream.

**WHAT HAPPENS DURING ABSORPTION?**

The digested materials pass through the small intestine into the bloodstream.

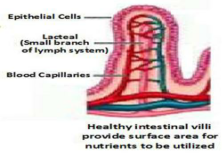
The lining of the small intestine consists of many finger-like projections called villi.

Each villus contains lacteal vessel containing fluid called lymph.

Contains network of capillaries surrounding lacteal containing blood.

Villi increases the surface area of the small intestine allowing nutrients to be absorbed more easily.

**The villus**

* Are tiny, finger-like projections that protrude from the wall of the small intestine.
* They line the inner surface of the small intestine.
* Their role is to increase the surface area within the small intestine.
*  This will of the surface area of absorption since absorption is the main function of the small intestine.

**ACTIVITY**

1. What is absorption?
2. Name the fluid found in the lacteal vessel in the Villus.
3. State the simplest form of the following nutrients after digestion has taken place.
4. Protein
5. Fat
6. Carbohydrate

**LESSON 48**

**STRAND: HEC 10.2 FOOD AND NUTRITION**

**Sub Strands: HEC 10. 2.3 Diet and Health**

**CLO: HEC 10.2.3.1 Differentiate over-nutrition and under-nutrition.**

**IMPORTANCE OF GOOD NUTRITION**

Combined with physical activity, your diet can help you to reach and maintain a healthy weight, reduce your risk of chronic diseases (like heart disease and Obesity, diabetes), and promote your overall health.

**Nutrition Education** – know what is best to eat and how much. Choose local foods as they are fresh and healthy, and avoid processed foods. Junk foods should be avoided altogether.

**Over nutrition** Choosing to eat more food to the point that it becomes dangerous to your health. E.g. Obesity, Diabetes, Hypertension, Dental caries

**Under nutrition**: It is a nutrient deficiency condition caused by not eating enough food. E.g. Kwashiorkor, Marasmus.

**Nutritional Diseases**

|  |  |  |  |
| --- | --- | --- | --- |
| DISEASE | CAUSE | SYMPTOMS | PREVENTION |
| OBESITY | * overconsumption of foods high in fat, sugar and salt | * Increase in body size * Tires easily during easy tasks * Finds it hard to control breathing | * Eat less oily food * Eat foods high in fibre, eg, fruits, vegetables, root crops, whole grains * Regular exercise |
| DIABETES | * Excess sugar in the blood | * Loss of weight, * constant thirst, * frequent passing of urine, * sores on the legs which do not heal | * Healthy eating * regular physical activity |
| HYPERTENSION | * Obesity * high consumption of salt | * Severe headache * nosebleeds | * Reduce intake of saturated fat and salt * maintain normal body weight * healthy eating habits |
| DENTAL CARIES | * Poor oral hygiene * lack of proper brushing technique | * Severe tooth ache | * Brushing teeth twice a day with fluoride toothpaste * drink fluoridated water * Reduce sweet sugary sticky food |
| PEM: Protein energy malnutrition: different levels of malnutrition caused by not having enough of  energy and protein foods. | | | |
| DISEASE | CAUSE | SYMPTOMS | PREVENTION |
| Underweight | * Poor nutrition in mothers before and during pregnancy   resulting in low birth weight babies | * Low birth weight and sickly infant | * Adequate nutritious meals for birthing Mother’s before, during and after pregnancy. * Intake of rich complementary foods for infants |
| Kwashiorkor | * severe lack of protein foods. | * Untimely introduction of complementary   foods to children that lacks protein. | * Increase intake of high protein foods for Infants |
| Marasmus | * Lack of protein and energy foods | * Early weaning from breast milk to other   foods   * repeated diarrhoea | * correct weaning time * maintaining a nutritious and balanced diet. |
| Anaemia | * lack of iron in the body | * Weakness * Fatigue * malaise.   (general discomfort or uneasiness) | * Include iron rich foods in the diet. |
| Goitre | * Enlargement of the   thyroid gland due to iodine deficiency | * Outer swelling of the neck * Less active * feeling cold at all times | * include seafood in diet- high in iodine * use iodized salt |

**ACTIVITY**

Complete the table below.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Disease** | **Cause** | **Prevention** |
| 1 | Obesity |  |  |
| 2 | Diabetes |  |  |
| 3 | Hypertension |  |  |
| 4 | Dental caries |  |  |
| 5 | Kwashiorkor |  |  |
| 6 | Marasmus |  |  |
| 7 | Anaemia |  |  |

**LESSON 49**

**STRAND**: **HEC 10.2 FOOD AND NUTRITION**

**Sub Strands: HEC 10. 2.3 Diet and Health**

**CLO: HEC 10.2.3.1 Differentiate over-nutrition and under-nutrition.**

**CAUSES OF NUTRITIONAL PROBLEM**

|  |  |  |
| --- | --- | --- |
| **Factors** | **Reasons** | |
| 1.**Poor diet** | diet that is high in processed foods/fast foods and fats and low in natural foods | |
| 2.**Poor snacking habits**.   * consuming lots of foods high in sugar | Careless snacking can easily increase your daily energy requirements while providing little to no nutritional benefit; contributing to the development of a range of health problems | |
| 3.**Choosing inferior foods for consumption.**   * Depending more on processed foods rather than fresh. | * Consumers are buying more of imported and processed foods for example, tinned fruits and vegetables, apples and pears which are low in nutritional value as compared to fresh fruits and vegetables. * They are more expensive to buy and contain lots of sugar, salt, fat and other additives which are bad for your health if consumed regularly. | |
| 4.Lack of knowledge in food preparation skills and cooking methods.   * Deep frying is widely used. | * Lack of confidence and poor food preparation skills contributes towards the lower intake of fruit and vegetable amongst people. * Besides using many of the traditional methods of cooking, new methods like frying are becoming common. For example fish may be fried first and then boiled in coconut cream. | |
| **5.Poor food choices**   * Buying imported fruits rather than local ones. * Foods high in sugar and fat | TRADITIONAL CHOICES- HEALTHY CHOICES | **MODERN CHOICES-UNHEALTHY CHOICES** |
| Pacific diet:   * Sweet potato * Taro * Yams * Breadfruit * Local fruits-guava, mango, pawpaw * Dark green leafy vegetables * Fresh seafood and shellfish * Fresh meat | Replaced by:   * White bread * Rice * cassava * cabin crackers * inferior fruits- apples, canned fruits * inferior vegetables- European cabbage, lettuce, cucumber * canned fish * tinned meat (high in fats, salt and additives * high sugar foods- soft drinks, lollies, cakes * high energy, expensive junk foods |
| **6.Lack of nutritional knowledge**  “Practice reading nutritional labels of processed foods”. | * Most of us eat food without knowing its nutritional value; do not know what healthy foods are, or what a portion size actually looks like. People assume a package, bag, bottle or plate of food is a serving size. * The less educated most likely would not have the tools to find out what or how much to eat.   Poor people with less education, have less access to nutritional information, nor enough income for healthy foods.  Those living in the rural and interior rarely have access to  supermarkets and rely on community stores to buy cheap processed foods. | |

**CHILDHOOD OBESITY**

* prevalent in our community today
* Obese children are at risk for the numerous health problems during their youth and into adulthood - high blood pressure, high cholesterol, and Type 2 diabetes.
* Being obese leads to psychological issues- drug and alcohol abuse, depression, eating disorders and other NCD’s

|  |  |
| --- | --- |
| **CAUSES OF CHILDHOOD OBESITY** | **PREVENTION OF CHILDHOOD OBESITY** |
| * The culture of eating in front of the TV screen for hours * over consumption of fast foods and junk foods (no food value present) should be discouraged in children. * Lack of physical activity- computer games and long hours in front of the TV | * Feed children the correct food in the correct amount * Regular physical activity * Discourage eating in front of the TV * Consumption of healthy snacks |

**IMPORTANCE OF WATCHING OUR DIET:**

* **you are what you eat**
* **healthy foods**
* keeps you active
* keeps the mind sharp
* will not fall sick
* **poor diet**
* causes deficiency diseases like scurvy, kwashiorkor, marasmus, anemia
* **eating more than you need**
* body will store surplus fat- leads to overweight and obesity
* can lead to heart diseases, high blood pressure, non- insulin dependent diabetes, obesity, tooth decay

**ACTIVITY**

1. List down **two** healthy methods of cooking and give reasons for your choice.
2. State the importance of proper nutrition.
3. Discuss how lack of nutritional knowledge affects one’s well-being.
4. Discuss why traditional food is better than imported and processed food.
5. State two causes of childhood obesity.
6. Explain the importance of watching our diet.