	Федеральное государственное бюджетное образовательное учреждение высшего образования «Волгоградский государственный медицинский университет» Министерства здравоохранения Российской Федерации Образовательная программа специальности 31.05.01 Лечебное дело (специалитет)	УЧЕБНО-МЕТОДИЧЕСКИЙ КОМПЛЕКС ДИСЦИПЛИНЫ «ГИГИЕНА»

ТЕМА:
« NUTRITION VALUE AND BIOAVAILABILITY OF FOODSTUFFS OF ANIMAL AND VEGETABLE ORIGIN (part 1,2)»

Methodical recommendations to the lesson
for students in the specialty 31.05.01 "General Medicine"

г. Волгоград, 2020 г.

The motivational description of the theme

Nutrition is one of the health-forming factors. More than 60 essential nutrients have to be consumed in appropriate amounts daily during regular meals. This is achieved by including over 30 various products in a weekly diet and about 15 various products in a daily diet.

There is no ideal food capable of meeting all human needs for nutrients. Foods vary in their chemical composition, digestibility, the nature of their effect on the human body, which should be taken into account when designing a diet or choosing the optimal way of cooking foods. It is important to ensure adequate nutrition in various conditions: pregnancy, breastfeeding, intensive growth and development, physical and emotional load. When a diet is designed for a specific patient, one should make a justified choice of foods based on their chemical composition and caloric value.

The objective: studying the nutritional and biological value of basic foodstuffs of animal and vegetable origin

Students' independent classroom activities

1. Presentation of students' reports and their discussion.
2. Solving case problems of 2 types.

Self-study task

1. Classification of foodstuffs (according to specific characteristics and usage)
2. Nutritional and biological value of milk and dairy products.
3. Nutritional and biological value of meat and meat foods.
4. Nutritional and biological value of fish and sea foods.
5. Nutritional and biological value of eggs.
6. Nutritional and biological value of bread.
7. Nutritional and biological value of cereals and pasta.
8. Nutritional and biological value of fruits and vegetables.

Reports:

1. Milk and dairy products in an everyday diet and clinical nutrition.
2. Fruits and vegetables in an everyday diet and clinical nutrition.

Plan of students' independent work

1. Case problem (type 1, type 2). The solutions of case problems should be reported in writing.

Reference information

Term descriptions

BIOLOGICAL VALUE is an indicator of the quality of food proteins reflecting how their amino acid composition meets the needs of the body for amino acids which are necessary for the synthesis of proteins.

MACRONUTRIENTS are food substances (fats, proteins and carbohydrates) whose requirement in the human body is measured in grams; they satisfy the body's need for energy and synthesis.
MICRONUTRIENTS are food substances (vitamins, minerals, and microelements) contained in the food in very small quantities: milligrams or micrograms. They are not a source of energy; they are involved in food assimilation, in the process of growth, adaptation and development of the body.
ESSENTIAL FOODS are those which are not synthesized by the body; they should arrive with foods to ensure the body's vital functions.
FOOD is a complex mixture of food substances cooked for consumption.
FOODSTUFFS are products consumed by people in natural or processed forms.
FOOD ADDITIVES are natural or synthesized substances or mixtures added to foods in small quantities to give the foods valuable properties, to preserve them.
NUTRITIONAL VALUE is a complex of food properties meeting the need of the human body for energy, basic nutritional substances, as well as digestibility, availability, self-tapering action.
DIGESTIBILITY indicates how the chemical composition of a food matches the body's enzymatic systems.
SELF-TAPERING ACTION is the rate at which the body develops a negative dynamic stereotype of choosing and consuming a food.
AVAILABILITY is the relative extent to which the body utilizes certain nutrients consumed with foods.
ENERGY VALUE is the amount of energy released in the human body upon product dissimilation.

Classification of foods

According to characteristic features and specifics of use one can distinguish the following types of foods:
1. Milk and dairy products.
2. Meat and meat foods.
3. Fish, fish foods and sea foods.
4. Eggs and egg products.
5. Edible fats.
6. Cereals and pasta.
7. Flour, bread and baked goods.
8. Vegetables, fruits (fruits proper, berries, nuts), fresh and cooked mushrooms.
9. Sugar and its substitutes, honey, confectionery.
10. Preserves and concentrates
11. Flavor products (tea, coffee, spices, seasonings, edible acids)
12. Mineral water.

Foods of all types are divided according to their origin or way of procurement.
Some foods are divided into degrees and categories according to standard requirements.

Food and energy value, %

Milk	Proteins	2.8-3.0	46-65 kcal
	Fats	1.5-6.0	
	Carbohydrates	4.0-5.0	
Meat	Proteins	14 – 20	98-355 kcal
	Fats	10 – 33	
Bread	Proteins	6.0-8.0	190- 225 kcal
	Fats	0.8-0.2	
	Carbohydrates	40 – 54	