

Lecture 7

Nutrition and Healthy Eating Habits (Питание и здоровые пищевые привычки)

Teaching Methods (Методы обучения):

Interactive lecture, problem-based learning, case study analysis, group discussions, dietary planning exercises, and visual demonstrations of nutritional models. (Интерактивная лекция, обучение на основе проблем, анализ кейсов, групповое обсуждение, разработка рационов и визуальные демонстрации.)

Technical Teaching Tools (Технические средства обучения):

Multimedia presentations, infographics of food pyramids, calorie and nutrient tracking applications, food models, charts of macronutrients and micronutrients, and videos demonstrating meal preparation. (Мультимедийные презентации, инфографики пирамид питания, приложения для подсчёта калорий и нутриентов, модели продуктов и видеоматериалы.)

Learning Outcomes (Результаты обучения лекции):

After completing this lecture, students will be able to:

1. Understand the basic principles of nutrition and the role of macronutrients and micronutrients.
2. Explain how diet affects health, fitness, and performance.
3. Identify healthy and unhealthy eating habits.
4. Develop balanced meal plans according to energy and nutrient requirements.
5. Apply strategies for maintaining long-term healthy eating behaviors.

Lecture Plan (План лекции):

- Definition and importance of nutrition.
- Macronutrients: carbohydrates, proteins, fats.
- Micronutrients: vitamins and minerals.
- Water and hydration.
- Principles of a balanced diet.
- Common dietary problems and strategies for improvement.
- Summary and discussion.

1. Definition and Importance of Nutrition

Nutrition is the science that studies the relationship between food and the body's functioning. Proper nutrition provides the energy and nutrients necessary for growth, tissue repair, immune defense, and optimal physical and mental performance.

Healthy eating habits play a vital role in disease prevention, weight management, and physical fitness. An unbalanced diet, by contrast, may lead to

chronic illnesses such as obesity, cardiovascular diseases, type 2 diabetes, and nutritional deficiencies.

2. Macronutrients

Macronutrients are nutrients required in large amounts that supply the body with energy: **carbohydrates, proteins, and fats.**

1. Carbohydrates

The main source of energy for the body. Complex carbohydrates (whole grains, fruits, vegetables) provide long-lasting energy and fiber, whereas simple sugars (sweets, processed foods) cause rapid blood glucose spikes. Recommended intake: **45–65% of total daily calories.**

2. Proteins

Essential for muscle growth, tissue repair, and enzyme production. Good sources include lean meat, fish, eggs, legumes, and dairy. Recommended intake: **10–35% of daily calories** or **0.8–1.6 g per kilogram of body weight**, depending on activity level.

3. Fats

Important for hormone production, vitamin absorption (A, D, E, K), and energy storage. Healthy fats (unsaturated fats) come from nuts, seeds, olive oil, and fish, while trans fats and excessive saturated fats should be limited. Recommended intake: **20–35% of total calories.**

3. Micronutrients

Micronutrients, including **vitamins and minerals**, are required in small amounts but are crucial for metabolic processes, immunity, and cell health.

- **Vitamins:** Vitamin C supports immunity; Vitamin D strengthens bones; B vitamins are vital for metabolism.
- **Minerals:** Calcium and phosphorus maintain bone health; iron is necessary for oxygen transport; potassium and magnesium regulate muscle and nerve function.

A varied diet of fruits, vegetables, whole grains, and lean proteins helps ensure sufficient micronutrient intake.

4. Water and Hydration

Water is an essential nutrient that supports all physiological functions: temperature regulation, digestion, nutrient transport, and waste removal. The human body is approximately 60–70% water.

Recommendations:

- Adults should consume **2–3 liters per day**, adjusting for activity level, climate, and health conditions.
- Dehydration leads to fatigue, decreased performance, and concentration problems.

5. Principles of a Balanced Diet

A **balanced diet** ensures proper proportions of macronutrients and micronutrients.

Key principles:

- Eat a variety of foods from all food groups.
- Prefer natural and minimally processed products.
- Control portion sizes to maintain healthy body weight.
- Include dietary fiber (whole grains, fruits, vegetables) for digestion.
- Limit sugar, salt, and saturated fats.
- Maintain regular meal timing and avoid skipping breakfast.

Modern dietary guidelines, such as the *Harvard Healthy Plate* or the *Mediterranean Diet*, emphasize whole foods, plant-based meals, and moderate portions of animal products.

6. Common Dietary Problems

Unhealthy eating habits can negatively affect performance and health. Common issues include:

- **Overeating or under-eating** due to poor portion control.
- **High sugar and processed food consumption.**
- **Skipping meals** or irregular eating patterns.
- **Low intake of fruits and vegetables.**
- **Dehydration** or excessive caffeine consumption.

Improvement strategies: meal planning, mindful eating, hydration monitoring, and gradual behavior modification.

7. Conclusion

Nutrition is a foundational element of physical fitness and overall well-being. Understanding the roles of macronutrients, micronutrients, and hydration helps individuals make informed dietary decisions. Establishing consistent healthy eating habits supports energy balance, disease prevention, and long-term quality of life.

Key Vocabulary & Expressions

Term	Translation	Definition
Nutrition	Питание	The process of providing or obtaining necessary food for health
Macronutrients	Макронутриенты	Nutrients required in large amounts (carbs, proteins, fats)
Micronutrients	Микронутриенты	Vitamins and minerals needed in small amounts
Balanced diet	Сбалансированное	A diet including all essential nutrients in

Term	Translation	Definition
	питание	proper proportions
Hydration	Гидратация	Maintaining adequate body water levels
Fiber	Клетчатка	Indigestible plant material aiding digestion
Calorie	Калория	A unit of energy derived from food
Metabolism	Обмен веществ	Chemical processes converting food into energy
Obesity	Ожирение	Excess body fat that increases health risk
Malnutrition	Недоедание	Condition caused by insufficient or unbalanced nutrition

Discussion Questions

1. Why is balanced nutrition essential for physical and mental health?
2. How do macronutrients and micronutrients differ in their functions?
3. What strategies can individuals use to maintain healthy eating habits?
4. How does dehydration affect exercise performance?
5. Why is it important to reduce processed food and sugar intake?

References

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10. Academy of Nutrition and Dietetics. (2023). *Position of the Academy: Nutrition and Athletic Performance*.

