



NUTRITIONAL CHARACTERISTICS OF PERSONS WITH DISABILITIES

M. Kh. Makhmudova¹,

A. S. Khudayberganov²

¹Tashkent State Medical University, Ph.D., Associate Professor –
makhmudovam037@gmail.com

²Center for Development of Professional Skills of Medical Workers, Ministry of
Health, D.Sc., Professor – anatoliuhud@mail.ru

Abstract

This article provides a scientific analysis of the nutritional characteristics of persons with disabilities and their impact on health. Different types of disabilities cause specific differences in metabolism, energy expenditure, and physiological needs. Therefore, it is essential to develop individualized dietary guidelines and meal plans for this category of individuals. The study highlights the role of healthcare professionals and family members in organizing proper nutrition for people with disabilities, their need for biologically active substances, and the importance of rational nutrition in improving quality of life.

Keywords: Persons with disabilities, metabolism, dietary nutrition, overweight, vitamins.

Introduction

Nutritional factors play an important physiological and biological role in maintaining human health. In particular, proper organization of nutrition for persons with disabilities is one of the key factors in sustaining their vital activities, preventing diseases, and facilitating rehabilitation. Individuals with physical limitations often experience reduced motor activity, altered metabolic processes, impaired blood circulation, and restricted organ function, which necessitate a specialized approach to organizing their diet.

Relevance

Currently, the number of people with disabilities is increasing worldwide. According to the World Health Organization (WHO), approximately 15% of the global population lives with some form of disability. In Uzbekistan, maintaining the health and improving the quality of life of persons with disabilities has also become a matter of state policy. Due to limited physical activity, impaired metabolism and circulation, and a predisposition to overweight or musculoskeletal problems, this group requires





a specialized nutritional approach. Moreover, improper nutrition can increase their risk of cardiovascular diseases, diabetes mellitus, and musculoskeletal disorders. From this perspective, developing and implementing scientifically grounded dietary recommendations for persons with disabilities is among the urgent tasks of modern public health.

Objective

The main goal of this study is to examine the nutritional characteristics of persons with disabilities, to develop rational dietary recommendations tailored to their physiological needs, and to define practical measures aimed at improving their quality of life.

Tasks. To achieve this objective, the following tasks were set:

1. To analyze changes in metabolism, energy expenditure, and physiological needs among persons with disabilities.
2. To identify the main nutritional problems common in this group (such as obesity, impaired circulation, and deficiencies of vitamins and minerals).
3. To scientifically develop principles of rational nutrition and assess their impact on the health of persons with disabilities.
4. To provide practical recommendations for selecting dietary products (control of caloric intake and balance of proteins, fats, carbohydrates, vitamins, and minerals).
5. To highlight the role of healthcare workers, dietitians, and family members in organizing nutrition for persons with disabilities.

Main Part

In persons with disabilities, metabolic processes are often slowed down, while energy expenditure decreases due to reduced physical activity. Metabolism is the process through which nutrients are absorbed, energy is produced, and redistributed within the body. It consists of two main stages:

- Catabolism – the breakdown of nutrients to release energy.
- Anabolism – the synthesis and regeneration of new tissues.

The Basal Metabolic Rate (BMR) depends on age, gender, muscle mass, and hormonal status, accounting for about 60–70% of daily energy expenditure in a healthy individual. However, in persons with disabilities, metabolism frequently slows down. This can be explained by several factors: reduced muscle mass due to limited mobility, hormonal imbalances (for example, thyroid or insulin metabolism disturbances), and





disorders of the nervous system. As a result, the balance of carbohydrate, fat, and protein metabolism may be disrupted.

For instance, excessive carbohydrate intake can lead to obesity, while a deficiency of protein weakens the immune system. Daily energy expenditure in individuals with disabilities is generally lower than that of healthy individuals due to:

- Limited physical activity,
- Decreased basal metabolic rate,
- Slowed fluid metabolism.

Consequently, they are at a higher risk of either being overweight or underweight. Energy expenditure varies depending on the type of disability – for example, in individuals with limited mobility, it decreases sharply, while in certain neurological conditions, it may even increase.

Nutritional needs of persons with disabilities are as follows:

- Proteins – for tissue repair and immune system function (1.0–1.2 g/kg per day).
- Fats – as an energy source, but in moderation (25–30% of total daily intake).
- Carbohydrates – the main energy source, but rapidly digestible carbohydrates should be limited.
- Vitamins and minerals – particularly calcium, magnesium, vitamin D (for bone health), and B vitamins (for the nervous system).
- Fluids – at least 1.5–2 liters per day, with careful attention to maintaining water and electrolyte balance due to reduced mobility.

A well-structured diet not only improves metabolism but also enhances the quality of life of persons with disabilities. Proper dietary organization helps maintain optimal metabolism, immune function, and overall energy balance. Collaboration between healthcare professionals, dietitians, and family members is of great importance in this process.

The Role of Healthcare Professionals. Healthcare workers play a crucial role in assessing the general health condition of persons with disabilities, providing dietary recommendations for somatic and chronic diseases, and monitoring to prevent complications such as obesity, hypertension, and diabetes. Their responsibilities include:

- Designing individualized meal plans based on metabolism, energy expenditure, and physiological needs.
- Ensuring the proper balance of proteins, fats, carbohydrates, vitamins, and minerals.





- Developing specialized diets (for diabetes, cardiovascular, or gastrointestinal diseases).
- Continuously monitoring the effectiveness of the diet and making adjustments as needed.

The Role of Dietitians. Proper dietary organization is a major factor in maintaining the health, metabolic balance, and quality of life of persons with disabilities. Dietitians play a central role in this process, as they are responsible for creating individualized meal plans, considering the body's needs, and preventing complications.

Their tasks include:

1. Developing individualized diet plans based on age, gender, mobility level, existing diseases, and metabolic characteristics. For example, in individuals with limited mobility, excess fats and rapidly digestible carbohydrates should be restricted.
 2. Balancing nutritional and physiological needs:
 - Proteins – for muscle maintenance and recovery.
 - Fats – as an energy source in moderate amounts.
 - Carbohydrates – as the main energy source under control.
 - Vitamins and minerals – to support bone, muscle, and nervous system function.Dietitians determine these requirements and balance the daily nutritional composition accordingly.
 3. Preventing weight gain or loss, reducing complications associated with diabetes, cardiovascular diseases, and gastrointestinal disorders. They develop special diet programs (e.g., diabetic diets, low-salt diets for hypertension, calcium and vitamin D enrichment for musculoskeletal problems). Rational nutrition helps strengthen the immune system.
 4. Monitoring and counseling: Dietitians not only design diet plans but also monitor their effectiveness through regular checkups – blood tests, body weight, and metabolic indicators – and adjust the plan if necessary. They also advise and train family members and caregivers on nutritional principles.
- Through such collaboration, dietitians ensure that dietary plans are scientifically grounded, physiologically adequate, and effective in improving health and quality of life for persons with disabilities.

The Role of Family Members. Family members play an essential role in implementing daily dietary routines. Their responsibilities include:

- Following the recommendations of dietitians and healthcare professionals.
- Providing psychological support and creating a positive mealtime environment.





- Preparing a variety of balanced meals to stimulate appetite and interest in food.
- Families of persons with disabilities should also possess the following nutritional knowledge:
 - Encourage frequent consumption of clean water and natural beverages.
 - Limit fried and fatty foods.
 - Include fruits, vegetables, grains, and dairy products in the daily diet.
 - Organize 4–5 small, regular meals per day.
 - Use special dietary supplements as recommended by a dietitian.

Conclusion

In persons with disabilities, metabolism tends to slow down, and energy expenditure decreases due to limited physical activity. This condition requires an individualized approach to meet physiological needs. Adequate intake of proteins, vitamins, and minerals, along with restricted consumption of fats and carbohydrates, is essential. A properly organized diet plays a vital role in maintaining health, reducing complications, and improving the quality of life of persons with disabilities.

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