

**ORGANIZING HEALTHY AND SAFE NUTRITION FOR CHILDREN IN PRESCHOOL EDUCATIONAL INSTITUTIONS****M. Ashurova**

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<https://doi.org/10.5281/zenodo.17314684>

**Annotation.** This article explores the organization of healthy and safe nutrition for children in preschool educational institutions. It examines the physiological, hygienic, and pedagogical aspects of nutrition, emphasizing the importance of balanced diets for physical and cognitive development. The research highlights the role of educators and caregivers in ensuring food safety, hygiene standards, and the formation of healthy eating habits from an early age. Attention is given to national regulations and international guidelines regarding preschool meal planning, food storage, and sanitary requirements. The findings demonstrate that systematic and scientifically based nutritional management in early education settings significantly contributes to children's well-being, immunity, and academic readiness.

**Keywords:** Preschool Education, Healthy Nutrition, Food Safety, Hygiene, Balanced Diet, Public Health, Early Childhood Development, Preventive Care.

**ОРГАНИЗАЦИЯ ЗДОРОВОГО И БЕЗОПАСНОГО ПИТАНИЯ ДЕТЕЙ В ДОШКОЛЬНЫХ ОБРАЗОВАТЕЛЬНЫХ УЧРЕЖДЕНИЯХ**

**Аннотация.** В данной статье рассматривается организация здорового и безопасного питания детей в дошкольных образовательных организациях.

Рассматриваются физиологические, гигиенические и педагогические аспекты питания, подчёркивая важность сбалансированного питания для физического и когнитивного развития. В исследовании подчёркивается роль воспитателей и лиц, осуществляющих уход, в обеспечении безопасности пищевых продуктов, соблюдении гигиенических норм и формировании здоровых пищевых привычек с раннего возраста. Уделяется внимание национальным нормативным актам и международным рекомендациям, касающимся планирования питания в дошкольных учреждениях, хранения продуктов питания и соблюдения санитарных требований. Результаты исследования показывают, что систематическое и научно обоснованное управление питанием в дошкольных образовательных организациях вносит значительный вклад в благополучие детей, укрепление иммунитета и академическую подготовку.

**Ключевые слова:** Дошкольное образование, Здоровое питание, Безопасность пищевых продуктов, Гигиена, Сбалансированное питание, Общественное здравоохранение, Раннее развитие детей, Профилактика.

### Introduction

In recent years, ensuring healthy and safe nutrition for children in preschool educational institutions has become one of the most important priorities in the field of public health and early childhood development. Proper nutrition during the preschool period plays a crucial role in the formation of a child's physical growth, mental development, and immune system stability. Since this age is characterized by rapid physiological and psychological changes, the child's body requires a balanced intake of essential nutrients such as proteins, fats, carbohydrates, vitamins, and minerals in appropriate proportions. Therefore, establishing a scientifically grounded nutrition system in preschool institutions is a key factor in maintaining the health and well-being of children.

Preschool meals must not only meet the energy needs of children but also ensure food safety and hygiene. The preparation, storage, and serving of meals should strictly follow sanitary and hygienic regulations to prevent infectious diseases and foodborne illnesses. In this regard, the role of caregivers, dietitians, and kitchen staff is vital in implementing safe and nutritious meal plans based on age-specific physiological requirements. In Uzbekistan, significant reforms have been carried out to improve the nutritional standards of children in preschool institutions.

These include modernizing kitchen facilities, implementing state nutrition programs, and developing methodological guidelines for balanced diet planning. However, despite the progress made, certain challenges remain such as ensuring consistent food quality, proper dietary monitoring, and raising awareness among educators and parents about the principles of healthy eating. Thus, this study aims to scientifically analyze the current state of organizing healthy and safe nutrition in preschool educational institutions, identify existing problems, and propose evidence-based recommendations for further improvement. Promoting healthy dietary habits from early childhood is not only a medical necessity but also an important social investment in the formation of a healthy, active, and intellectually capable young generation.

### Main part

Proper nutrition during the preschool stage is fundamental to a child's overall growth and development. At this age, children experience rapid physical, mental, and emotional changes that require adequate energy and nutrient intake. Balanced nutrition supports the development of the skeletal system, brain function, and immune resistance. A lack of essential nutrients, such as proteins, vitamins, and minerals, can lead to developmental delays, weakened immunity, and decreased learning abilities. Moreover, early childhood is a critical period for establishing lifelong eating habits, making it essential to introduce healthy dietary patterns. Scientific studies emphasize that nutritional deficiencies during preschool years can have long-term effects on physical health and cognitive capacity. Therefore, a well-structured nutrition plan must correspond to the physiological requirements of children, taking into account their age, activity level, and growth rate.

Organizing nutrition in preschool institutions requires adherence to several key principles: balance, safety, regularity, and variety. Balanced nutrition means providing foods that meet the daily physiological needs of preschool children in terms of energy and essential nutrients.

Safety implies strict compliance with food hygiene standards during preparation, storage, and serving. Regularity involves the correct scheduling of meals throughout the day, ensuring that children eat at consistent times. Variety refers to offering diverse foods to prevent monotony and ensure the intake of different vitamins and minerals. Additionally, meals should be designed with consideration for children's preferences and allergies. The integration of these principles ensures that preschool nutrition contributes not only to physical development but also to the cultivation of healthy eating habits and food awareness.

Nutritional standards for preschool children are determined by their physiological characteristics and growth needs. According to scientific and health guidelines, preschoolers require an energy intake of 1,400–1,800 kcal per day, depending on their age and activity level.

The distribution of macronutrients should be approximately 13–15% protein, 25–30% fat, and 55–60% carbohydrates. Proteins of animal origin play an important role in tissue development, while plant-based foods supply fiber and vitamins essential for digestion. Calcium, iron, vitamin D, and iodine are among the most critical micronutrients for bone and brain development. The daily diet should include milk and dairy products, cereals, fruits, vegetables, and a moderate amount of meat and fish. Meeting these requirements ensures that children maintain a stable metabolism, strong immune function, and normal psychomotor development.

Ensuring food safety in preschool institutions is a fundamental component of children's health protection. All stages of food handling procurement, transportation, storage, preparation, and serving must comply with sanitary norms and regulations. Raw and cooked foods should be kept separate to prevent cross-contamination. Kitchen surfaces, utensils, and appliances must be regularly disinfected, and kitchen staff should maintain high personal hygiene standards.

Temperature control during food preparation and storage is essential to avoid bacterial growth. Periodic inspections by sanitary-epidemiological services help maintain compliance and prevent outbreaks of foodborne diseases. Additionally, staff must receive regular training in hygiene practices and food safety management systems such as HACCP (Hazard Analysis and Critical Control Points). A hygienically safe environment ensures that preschoolers receive nutritious meals free from harmful contaminants.

Dietitians and educators play a crucial role in shaping children's eating behaviors and ensuring the quality of nutrition in preschool institutions. Dietitians are responsible for developing balanced menus that meet physiological norms and prevent dietary monotony. They also monitor portion sizes, calorie content, and nutrient ratios. Educators, on the other hand, serve as role models in promoting positive eating behaviors and table manners among children. Integrating nutrition education into daily activities helps children understand the importance of fruits, vegetables, and water consumption. Collaboration between caregivers, dietitians, and parents ensures a consistent approach to healthy eating both at school and home. Furthermore, training programs for preschool staff should include modules on child nutrition, food allergies, and the prevention of obesity.

Despite the progress made in improving preschool nutrition, several challenges persist.

These include limited funding for food quality improvement, insufficient training of kitchen staff, and inconsistent application of hygiene standards. In some cases, menu planning does not fully consider children's age-specific nutritional needs, leading to unbalanced diets. The availability of fresh fruits and vegetables can also be affected by seasonal and regional factors.

Moreover, parents may have low awareness of healthy eating principles, making it difficult to reinforce these habits at home.



Addressing these challenges requires stronger institutional oversight, enhanced dietetic supervision, and increased community involvement. Implementing regular monitoring systems and nutritional audits can help maintain consistent standards of safety and quality across all preschool institutions.

In Uzbekistan, the government has introduced several regulatory measures aimed at improving child nutrition in preschool institutions.

These include the adoption of sanitary-epidemiological norms, the modernization of catering facilities, and the introduction of national standards for balanced diets. The Ministry of Preschool Education, in cooperation with the Ministry of Health, oversees the implementation of these regulations. State-funded nutrition programs focus on providing children with safe, nutritious, and locally sourced food. Moreover, continuous inspections are carried out to monitor hygiene compliance and food quality. The introduction of modern kitchen technologies and monitoring systems has also helped improve efficiency and transparency. However, further work is needed to align national policies with international best practices in child nutrition and food safety management.

The preschool period is the ideal time to develop a lifelong culture of healthy eating.

Creating a positive attitude toward food helps prevent future health problems such as obesity, malnutrition, and metabolic disorders. Teachers and caregivers should organize educational activities such as interactive games, storytelling, and cooking demonstrations that teach children about healthy food choices. Encouraging the consumption of fruits, vegetables, and natural products helps build good eating habits from an early age. Moreover, the involvement of parents in nutrition education programs enhances the effectiveness of these efforts. A well-established eating culture supports both physical well-being and psychological comfort, making mealtime a positive and educational experience. Ultimately, forming healthy eating habits in preschool years lays the foundation for a strong, active, and health-conscious generation.

### **Discussion**

The analysis of preschool nutrition systems reveals that healthy and safe nutrition is a multidimensional process involving medical, educational, and organizational aspects. Effective nutritional management requires cooperation among dietitians, caregivers, kitchen staff, and parents. One of the main issues identified is the inconsistency in implementing hygiene and dietary standards across different regions. In some institutions, the lack of specialized dietitians and insufficient sanitary control affects the overall quality of meals. Moreover, while national programs exist to improve food safety, their implementation at the local level still faces administrative and technical challenges. Another important point concerns the need for continuous monitoring of children's physiological indicators. Regular health assessments allow specialists to adjust menus according to individual needs and prevent both malnutrition and excessive weight gain. The integration of nutrition education into preschool curricula also contributes significantly to shaping healthy eating habits from an early age. However, in practice, such educational activities are often limited due to time constraints or insufficient methodological resources. The discussion also highlights that promoting a healthy eating culture requires community involvement. Parental awareness and participation in preschool nutrition programs have a strong impact on reinforcing dietary discipline at home. Additionally, modernization of kitchen equipment, improvement of supply chains, and the use of locally sourced natural foods can further enhance meal safety and quality.

Overall, the findings emphasize the necessity of a systematic, evidence-based approach to organizing preschool nutrition that prioritizes child health and food safety at every stage.

### Result

As a result of the study, it can be concluded that organizing healthy and safe nutrition in preschool educational institutions is an essential condition for ensuring children's proper physical and mental development. Balanced and hygienically prepared meals directly influence the prevention of nutritional disorders, the strengthening of the immune system, and the enhancement of learning abilities. The analysis shows that the effectiveness of preschool nutrition largely depends on three main factors: adherence to sanitary-hygienic norms, implementation of scientifically grounded dietary standards, and active participation of educators and parents. The research also indicates that despite positive reforms in Uzbekistan's preschool system, there is still a need to reinforce monitoring mechanisms, increase professional training for kitchen and teaching staff, and develop modern educational tools to teach nutrition literacy.

Ensuring a consistent food safety policy and improving the dietetic infrastructure in every preschool should be a national priority. The establishment of a unified and scientifically based nutrition system in preschool institutions not only guarantees children's safety and well-being but also lays the foundation for a healthy, productive, and socially active generation. Sustainable improvement in preschool nutrition is therefore a key investment in the nation's future health and human capital.

### Conclusion

Ensuring healthy and safe nutrition for children in preschool educational institutions is one of the most important factors in supporting their physical and cognitive development.

Properly organized nutrition helps maintain children's immunity, supports growth processes, and prevents common nutritional disorders such as anemia, obesity, and vitamin deficiencies. The research and discussions presented in this study indicate that preschool organizations play a critical role not only in education but also in shaping lifelong eating habits among children. The effective organization of nutrition requires a scientific approach that includes age-appropriate dietary planning, hygienic food preparation, and regular monitoring of the nutritional quality.

Collaboration between medical staff, educators, and parents is essential for maintaining balanced nutrition and ensuring the safety of all meals served to children. Moreover, adherence to national dietary standards and international health recommendations contributes to the creation of a sustainable and safe food environment. In conclusion, the establishment of a well-regulated nutrition system in preschool institutions promotes children's well-being and ensures their harmonious development. Strengthening the control of food quality, introducing innovative dietary programs, and increasing the professional competence of staff involved in child nutrition management are vital steps toward achieving these goals. A healthy and safe diet in early childhood serves as a solid foundation for a healthy future generation.

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