SPECIALIZED MULTI-PROFILE PRESCHOOL EDUCATIONAL INSTITUTIONS: NUTRITION FOR CHILDREN

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ABSTRACT *This article examines the principles and practices of providing balanced and nutritionally adequate diets for children enrolled in specialized multi-profile preschool educational institutions. It emphasizes the physiological requirements of early childhood, highlighting the role of proteins, fats, carbohydrates, vitamins, and minerals in supporting optimal growth and development. Special attention is given to individualized nutritional approaches for children with specific health needs, the preparation of therapeutic diets, and strict adherence to sanitary and hygienic standards. The study's findings offer evidence-based recommendations aimed at improving the quality of meals, diversifying the dietary repertoire, and enhancing the overall health and well-being of preschool children.*

Keyword: *Balanced diet, Nutritionally adequate diets, Preschool children, Specialized preschool institutions, Early childhood nutrition, Proteins, fats, carbohydrates, Vitamins and minerals, Growth and development, Individualized nutrition, Therapeutic diets, Sanitary and hygienic standards, Meal quality improvement, Dietary diversity, Child health and well-being.*

INTRODUCTION

Ensuring adequate and balanced nutrition in preschool educational institutions plays a pivotal role in strengthening children's health and supporting their physical and cognitive development. In specialized multi-profile preschool institutions, where children may present with diverse health conditions and specific needs, the organization of nutrition requires a more individualized approach and scientifically grounded meal planning.

Adequate intake of proteins, fats, carbohydrates, vitamins, and minerals during early childhood directly influences metabolic processes, immune system function, and the formation of cognitive abilities. Therefore, maintaining strict quality control of food products, adhering to sanitary and hygienic regulations, and applying appropriate technologies in the preparation of therapeutic and special diets are essential components of the nutrition management process.

This article analyzes the scientific and methodological foundations of nutrition in specialized multi-profile preschool educational institutions, reviews practical experience, identifies current challenges, and proposes evidence-based recommendations to address them.

In the Republic of Uzbekistan, the system of providing meals for children in specialized multi-profile preschool educational institutions has undergone significant reforms in recent years. These reforms are aimed at ensuring healthy nutrition, complying with sanitary and hygiene requirements, and introducing services based on digitalization and outsourcing.

In specialized preschool educational institutions (DIMTT), groups are formed in accordance with the contingent of children aged 2 to 7 years with physical or mental disabilities. These institutions are intended for children with physical, speech, hearing, vision, or psychological developmental impairments. The meal provision process in these institutions is organized in accordance with the children's health conditions and individual needs. Placement of a child into a specialized preschool educational institution requires the conclusion of a medical-psychological-pedagogical commission.

As of 2024, meal services in state preschool educational institutions are being gradually introduced through an outsourcing model, with 83 entrepreneurs providing this service in 1,172 institutions. To ensure healthy nutrition for children, a 10-day "Unified Seasonal Menu" has been introduced, based on a collection of special recipes designed for children.

For effective control of the meal provision process, the Center for Organization and Control of Catering in the Education Sector has been established. The center is responsible for implementing healthy nutrition through outsourcing, conducting state procurement, and regularly monitoring the compliance of meals with sanitary rules and hygiene standards.

In addition, hygiene-based training seminars are organized for personnel responsible for catering in preschool educational institutions — including chefs, nurses, and facility managers — to enhance their knowledge and skills in food preparation technology, as well as in the proper acceptance and storage of food products.

In multidisciplinary specialized and combined-type preschool educational institutions, the catering process is organized in accordance with the current legal regulations, and full responsibility for arranging the meals of the pupils is assigned to the head of the institution.

Chapter 3 of the State Standard for Preschool Education and Upbringing covers issues related to supporting the child's development, providing additional educational services, and cooperating with parents within preschool institutions. In ensuring a child's development, special attention is given to maintaining their health and safety, promoting social adaptation, developing creative abilities, and meeting movement needs. Educational activities are conducted through play, with a focus on fostering national cultural values and cultivating respect for the cultures of other nations.

For children with special needs, the educational process is planned on the basis of an individual approach, with teachers, narrow-specialty professionals, and the institution's administration working in close cooperation. In addition, supplementary educational services are organized to meet the needs of children and the community. Volunteers, parents, and sponsors may participate in providing these services, thereby creating wide opportunities for the development of children's interests and talents.

In ensuring the holistic development of a child, effective cooperation with parents plays an important role. In this process, preschool educational institutions take into account parents' opinions, inform them on issues of early development, work to preserve and strengthen the child's health, support their creative abilities, and provide and enhance learning through play. Moreover, special attention is paid to creating a safe and favorable environment for children's development and social adaptation, strengthening collaboration with families, communities, and schools, promoting national cultural traditions and values, and fostering respect for the culture of other nations.

Through agreements between preschool educational institutions and parents, cooperation is established in matters such as protecting the life of the pupil, ensuring their physical and psychological well-being, addressing developmental deficiencies, and developing creative abilities and interests.

Although every child has individual developmental characteristics, there are common stages of development. In children on the autism spectrum, limitations in social interaction, repetitive behaviors, and delays in speech development may be observed; in such cases, early diagnosis and the application of special pedagogical approaches are essential. In children with Down syndrome, delays in physical and intellectual development are common, requiring special education and rehabilitation measures. In cases of delayed psychological development, difficulties may be seen in speech, thinking, and social skills; here too, early diagnosis and specialized pedagogical approaches are of great importance.

"Physical and Mental Development Stages of Children Aged 1–7"

Age	Healthy Child	Child with Autism Spectrum Disorder	Child with Down Syndrome	Child with Developmental Delay (DD)
1–2 years	Begins to walk independently, can say 10–20 words, understands simple commands.	Limited eye contact, may not respond to their name, delayed speech development.	Delayed walking and speech development, noticeable muscle hypotonia.	Delays in speech and motor skills, difficulty understanding commands.
2–3 years	Forms 2–3 word sentences, engages in independent play, social	Repetitive movements, difficulties in social interaction, significant delay	Limited vocabulary, poor social interaction, delayed motor development.	Delays in speech and thinking, lag in social and emotional

	skills develop.	in speech development.		development.
3–4 years	Forms 4–5 word sentences, asks questions, participates in role-play games.	Lack of interest in social play, echolalia (repeating words/phrases), limited emotional expression.	Delays in speech and motor development, difficulties in social interaction.	Significant delays in speech and thinking, slow social and emotional development.
4–5 years	Forms complex sentences, plays with friends, expresses emotions.	Restrictions in social interaction, stereotypical expressions in speech, limited emotional expression.	Delays in speech and motor development, difficulties in social interaction.	Delays in speech and thinking, slow social and emotional development.
5–6 years	Prepares for school, shows interest in reading and writing, develops independent thinking.	Difficulties in preparing for school, limitations in social and academic skills.	Needs additional support for school readiness, delayed social and academic development.	Difficulties in preparing for school, slow social and academic development.
6–7 years	Learns to read and write, develops independent thinking and problem-solving skills.	Difficulties in reading and writing, restrictions in social interaction, requires special education.	Delayed reading and writing, needs additional support in social and academic development.	Difficulties in reading and writing, slow social and academic development.

Moreover, when children aged 1 to 7 have conditions such as Autism Spectrum Disorder (ASD), Down syndrome, or delayed psychological development (DPD), their feeding process differs significantly from that of healthy children. This is mainly due to sensory sensitivity, oral-motor skills, and behavioral factors, which directly affect the child's eating

experience and overall nutritional status. For example, in children with ASD, heightened sensitivity to the taste, smell, or texture of food often results in selective eating, strict adherence to certain foods or routines, difficulty accepting new foods, and frequent gastrointestinal issues. These factors can reduce dietary diversity and lead to nutritional deficiencies. Therefore, sensory integration therapy and structured feeding programs are important for addressing these issues in such children.

In children with Down syndrome, a number of difficulties may arise during feeding. These include chewing and swallowing problems due to delayed oral-motor development, slower transition to solid foods, strong preferences for certain food textures, and consequently, reduced dietary variety. Such problems can limit the quality of nutrition, so early intervention, feeding therapy, and individualized guidance on appropriate food textures play an important role in improving the child's nutritional status.

Children with delayed psychological development (DPD) also experience specific feeding difficulties. These may include delays in self-feeding skills (such as eating with hands or using a spoon), limited dietary diversity due to sensory sensitivity or behavioral factors, and general challenges with feeding. In such cases, a comprehensive assessment and the development of individualized feeding strategies are recommended.

In healthy children, however, feeding stages generally progress naturally and consistently. Around 6 months of age, solid foods are introduced, increasing dietary diversity. Between the ages of 1 and 2, children learn to use a spoon and begin trying different foods. By the age of 3, most children are able to consume a variety of foods, and their nutritional needs are fully met. Selective eating may sometimes occur, but this is usually temporary and can be resolved through consistent positive reinforcement and sustained encouragement.

Below, the above information is presented in tabular form.

Aspect	**Children with ASD**	**Children with Down Syndrome**	**Children with Developmental Delay (DD)**	**Healthy Children**
Sensory sensitivity	High; selective eating	Moderate; preferences for specific textures	Variable; affects food acceptance	Low; generally adaptable
Oral-motor skills	Usually normal	Delayed; difficulties with chewing/swallowing	Delayed; affects self-feeding	Develops as expected
Eating-related behavior	Strict routines; food refusal	Delay in transitioning to solid foods; chewing difficulties	Limited variety; feeding difficulties	Occasionally selective eating; manageable

Nutritional risks	Deficiencies due to restricted diet	Risk of inadequate intake; texture restrictions	Risk of poor nutrition; feeding issues	Nutritional needs usually met

In conclusion, addressing feeding difficulties in children with ASD, Down syndrome, and other developmental conditions early and comprehensively can significantly improve their nutritional status and overall development.

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