

ORGANIZATION OF SCHOOL MEALS IN THE KYRGYZ REPUBLIC

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In recent years the issues of organizing school meals have been of great interest. The basis of the proposed approaches is the introduction of new nutritional schemes for schoolchildren and the use of modern high-quality equipment, which allows for the minimum cost to provide schoolchildren nutrition that meets established requirements. Nutrition must be balanced in order to fully develop, during the day the child should receive the minimum necessary for this nutritional and mineral substances. Given that most of the time children spend in organized groups, schools, then they should fully eat there. The purpose of this work was to study the system of school nutrition in the Kyrgyz Republic. Currently, students of grades 1-4 of comprehensive schools in the Kyrgyz Republic are provided with free meals. In most schools, meals are organized according to a cyclical menu, from a diverse assortment of food products by day of the week. Coverage with hot meals (breakfast) 61,5% and in the rest of the republic's primary school students receive one bun and a mug of tea, which are replaced with other types of bakery products and drinks. The need for a balanced diet to protect the health of children and adolescents is noted.

Keywords: school meals, menu, parental contribution, school farms, prescription, health indicators, school catering facilities, child morbidity, personal hygiene

Rational, healthy nutrition ensures the harmonious growth and development of children, prevents the development of diseases, increases mental and physical performance and is especially important in childhood, when the basic physiological, metabolic, immunological mechanisms that determine a person's health throughout his subsequent life are formed [1–3].

Lack of adequate nutrition for schoolchildren's physiological needs can lead to disorders of the body's vital functions, including the formation and progression of diseases of the gastrointestinal tract, circulatory and hematopoietic organs, changes in the endocrine, immune, musculoskeletal systems, and various parts of the nervous system.

In recent years, the Independent States worsened health outcomes of school-age children [4–6].

In recent years, there has been a persistent trend towards a deterioration in the health indicators of school-age children in the CIS countries. According to the National Center for Maternal and Child Welfare in the Kyrgyz Republic in 2012, 43% of children suffer from iron deficiency anemia, including the highest prevalence of iron deficiency anemia among children in the Chui region of the Kyrgyz Republic, accounting for 59%.

Over the past 15-20 years, comprehensive schools are becoming more and more prominent one of the main causes of the development of chronic diseases in children and adolescents. Respiratory diseases occupy a leading place in the structure of children's morbidity. According to official statistics, 30% of schoolchildren are diagnosed with chronic diseases. Attention is drawn to the deterioration of indicators of children's physical development. Annually, less 10 thousand children with signs of lag in

physical development are identified, as recently, diseases of the organs of the gastrointestinal tract have been growing among children [7].

One of the main reasons is the overcrowding of schools, especially in cities, where it is 1.5-2.5 times higher than the established standards. Violation of the sanitary and anti-epidemic regime, unsatisfactory conditions for training and education are also reflected in the indicators of infectious morbidity among students in educational institutions. In 2016, among children and adolescents, there is an increase in the incidence of viral hepatitis A by 24.2% compared with 2015 (12323 cases were recorded compared to 9335 cases in 2015). In the general group of intestinal infections, an increase in incidence by 5.3% is also observed. In 2016, 26,299 cases were registered against 24,893 cases in 2015 [8].

The aim of the research is the study and analysis of the system of organization of school meals in the Kyrgyz Republic and its further development.

Materials and research methods

The organization of school meals was studied in 2236 educational institutions of the Kyrgyz Republic. The analysis of the conditions for the catering of schoolchildren, the state of the material and technical base of the catering departments of schools is carried out. The analysis was carried out according to official statistics from 50 regional Centers for Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health of the Kyrgyz Republic.

Research results and discussion

The organization of hot meals for students of secondary schools has shown its relevance [9, 10].

Data on canteens and students of secondary schools receiving school meals

№	Name of the area (city, region)	Number of school canteens	Number of students in grades 1-4	Among them:		
				typical	buffets	Adapted premises
1	Bishkek	133	38636	93	-	40
2	Batken region	234	36769	110	76	48
3	Jalalabad region	474	86920	97	172	205
4	Issyk-Kul region	199	32798	86	-	113
5	Naryn region	139	22562	64	-	75
6	Osh region	528	92947	210	208	110
7	Osh	58	19422	42	13	3
8	Talas region	116	17945	65	-	51
9	Chui region	323	52512	222	28	73
	All	2204	400511	989	497	718

According to the Law of the Kyrgyz Republic “On the organization of catering for students in secondary schools of the Kyrgyz Republic”, students from primary schools starting in 2006 receive school meals. In 2013, their number reached 400 511 children (Table). The Government of the Kyrgyz Republic annually allocates about 500 million soms from the republican budget to organize meals for students in grades 1-4.

Currently, out of 2236 educational institutions in 1371 schools have organized hot meals. In 2013, only 10% of schools had hot meals. Over six years, this indicator reached 61,5%.

In most schools, meals are organized according to a cyclical menu, from a diverse assortment of food products by day of the week. In 38,5% of schools in the republic, elementary school students are given one bun and a mug of tea, which are replaced with other types of bakery products and drinks (cookies, gingerbread, waffles, cakes, muffins, as well as boiled milk, cocoa, compote, etc.). The menu is compiled taking into account food standards in the amount of 7 soms per day and 10 soms in remote, high-mountainous regions, which is insufficient to organize hot meals five times a week [11].

Lack of funds is partially covered by voluntary parental contributions. Parents pay extra from 1 to 5 soms per day, which is available to many families. Since the institutionalization of parental contributions has not yet been reflected in the regulatory legal acts of the Kyrgyz Republic, this leads to the fact that contributions are unstable (vary from month to month) and largely depend on how actively the Board of Trustees mobilizes these contributions. Despite additional parental contributions, the accumulated amount is insufficient to ensure that all pilot schools receive food in accordance

with the recommended norms of consumption of nutrients, energy and food products established by the Ministry of Health of the Kyrgyz Republic.

With the technical support of international donors such as the UN World Food Program, Mercy Corp and other sponsors, modern technological and refrigeration equipment is supplied to schools of the republic to organize hot meals. One of the conditions for the supply of equipment is a guarantee of support from the local government and the parent community (i.e. 30% of the contribution from the institution, 70% from the project). These 30% are not provided to anyone in cash, but make a contribution in the form of repair work of the school cafeteria (repair of the catering unit, sewer pipes, electrical wires, etc.).

In the framework of the UN WFP program “School Meals Optimization program”, hot meals were introduced in 435 schools from different regions of the republic.

In addition, within the framework of the program “Food for Education Program”, more and more junior classes of 143 schools of the republic were involved using technical means and special equipment.

All employees of pilot schools and district representatives of the Ministry of Education and Science of the Kyrgyz Republic and the Ministry of Health of the Kyrgyz Republic were trained.

An action plan has been developed to promote school nutrition, proper nutrition and hygiene, together with the Ministry of Education and Science of the Kyrgyz Republic and the Ministry of Health of the Kyrgyz Republic.

In addition, WFP used grant funds to develop tailor-made technology projects for each school and to modify the entire school feeding mechanism. For this, the food procurement

process was changed – from the purchase of ready-made buns and cakes to the acquisition of fresh ingredients for nutritious lunches, the training of school chefs, the formation of a school lunch menu and the improvement of sanitary conditions in schools. Local authorities allocated the necessary funds for the repair of school canteens and the arrangement of appropriate infrastructure.

At present, 66% of pilot schools use meat for cooking, 80% of schools use dairy products, at least 38% of pilot schools provide hot meals 4-5 times a week, every 4th school provides weekly salads for primary school students.

Using pilot schools as an example, WFP proved that hot lunches can be prepared for 10–13 soms 4–5 times a week. Thus, according to the experience of WFP with the proper organization of school meals, changing the system of procurement of products from local manufacturers, creating a menu in accordance with the standards of the Ministry of Health of the Kyrgyz Republic, the availability of conditions for storing and preparing food – these funds are enough to prepare hot dishes (cereals, soups) 3-4 times a week. Daily hot meals can be provided by adding parental funds or funds from local budgets in the amount of 3 soms per day per child. These calculations are true for rural schools, since the entire amount is directed exclusively to products for school meals. Salaries of cooks, utilities are covered by school budgets.

The menu of schoolchildren consists not only of a bun. Specialists offered 146 recipes (88 recipes for hot dishes, 11 recipes for drinks, 19 baking options and 28 salad recipes). The menu uses inexpensive local products available to schools. Moreover, tea was replaced with compote, milk, ayran, cocoa there.

In addition, school farms have been created in various areas in order to support and improve the nutrition of students in 57 secondary schools. The agricultural products growing there are used for school meals.

I would like to note that linking school meals to the agricultural sector creates direct economic benefits and benefits both farmers and children. Linking with local agricultural production enhances program sustainability and creates stability for local produce markets.

At the same time following are also needed, technical support for farmers, the development of training modules on agronomic techniques, the accounting method, training seminars and trainings for local communities.

One of the advantages of the school nutrition development program is the fact that

children began to skip school less. Everyone knows that not all students eat breakfast at home. There are children from low-income families. They do not have the ability to eat varied. If the school has hot meals, then there is a greater chance that such a child will not miss school.

As a result, children receive milk or rice porridge, pilaf, pea soup, mastava, buckwheat porridge with meat, baked pasties with potatoes, buns, portioned cakes, vegetable salads, etc.

According to the recommended norms of the Ministry of Health of the Kyrgyz Republic, the calorie content of a school breakfast should be 550 kcal. In pilot schools, it is 650 kcal. Calorie buns and tea – 355 kcal.

Most schools have heating appliances, stoves and ovens purchased by the school's administration, the parent fund, and local governments. Food for students in schools is purchased through suppliers determined by the results of the tender.

However, to date, nutrition of students in secondary schools of the Kyrgyz Republic remains a rather serious problem, since many issues remain unresolved.

38.4% of schools do not have centralized water supply, up to 83.4% of buildings of secondary schools are not connected to the centralized sewerage network. Water supply interruptions are noted in schools in the southern region of the republic. Large values of the risk to children's health were noted; lack of conditions for maintaining personal hygiene; there are no sinks for washing hands or do not function. During the preparation of schools for the new school year, attention is not always paid to the existing shortcomings, limited to supporting repair work.

In more than 66% of general education schools of the republic, re-profiling of the building with the repair of infrastructure, or its demolition and the construction of a new school are required. Confirmation of this is the functioning of schools that were built in 1930 – 1960, their total number is 281 schools.

Recently, a number of documents have been approved in the Kyrgyz Republic aimed at improving the health status of schoolchildren, which oblige them to take measures to improve the nutrition of children, especially grades 1-4. Approved by the decree of the Government of the Kyrgyz Republic of 11.04. 2016 year No.201 "On the approval of acts in the field of public health" sanitary norms and rules "Sanitary and epidemiological requirements for the conditions and organization of training

in general educational institutions” the requirements for the catering of students are presented which presents the requirements for the introduction of the registration form of the catering unit, the requirements food, a list of prohibited foods, compilation of a menu-layout, nutritional standards, as well as requirements for the conditions of stay of children in schools.

In many schools, the conditions for catering are improved; in addition, electric titans are installed in the washing departments to provide hot water. In the republic only 10% (Bishkek) use dishwashers. Additionally purchased tableware. In canteens, where technological equipment has been preserved, baking of bakery products is carried out on their own.

Corresponding agreements are drawn up for the supply of milk and rolls with legal entities and individuals.

Unfortunately, in the Kyrgyz Republic, practical scientific work in the field of assessing the nutrition and health status of schoolchildren was not carried out. In several stages, a study was conducted on indicators of the physical development of children: for a thirty-year period (1928-1929 – 1960-1961), 1970. and recent studies in 2013-2017 [12].

The problems of optimizing the nutrition of children, the nature of their nutrition, daily energy consumption, etc. remain insufficiently studied and resolved in practice. This circumstance dictates the need for a selective population study covering a sufficient number of school-age children with the introduction of appropriate recommendations for the resumption of hot meals in secondary schools of the republic.

Conclusion

Our study shows the importance of school feeding for public health making it an urgent task for school food service to be actively developed and expanded in the Kyrgyz Republic. Also, given the significant prevalence of infectious and non-infectious diseases among schoolchildren, significant levels of relative

risk, further efforts are required to improve the nutritional conditions, providing schools with clean drinking water and the necessary sanitary and hygienic conditions, strengthening school work on a healthy lifestyle and medical support for this contingent.

References

1. Hygienic foundations of the organization, evaluation and correction of nutrition of various population groups: a training manual / Bogomolova E.S., Rakhmanov R.S., Ashina M.V., Kotova N.V., Maksimenko E.O., Shaposhnikova M.V., Badeeva T.V., Olyushina E.A., Hajibragimov D.A. – N. Novgorod: Publishing House of Nizhny Novgorod State Medical Academy, 2016. 194 p.
2. Akhmedalieva N.O., Sharipova S.A., Yuldasheva N.G. The problem of organizing rational nutrition for preschool children // *Young scientist*. 2016. No 12. P. 476-478.
3. Gubanikhina E.V. Proper nutrition as a factor in maintaining human health // *Young scientist*. 2017. No. 50. P. 119-121.
4. Setko A.G. Methodological foundations of a hygienic assessment of the factors shaping the health of the child population living in urban and rural areas: abstract. dis doc. med. sciences. – Orenburg, 2008.41 p.
5. Melnik V.A., Kozakevich N.V. Influence of a set of socio-biological factors on morphological and functional indicators of physical development and puberty of urban schoolchildren // *Man and his health*. 2014. No. 2. P. 90–95.
6. Actual health problems of children and adolescents and ways to solve them. Materials of the 3rd All-Russian Congress with international participation in school and university medicine (February 25-27, 2012, Moscow) / Ed. Corr. RAMS, prof. V.R. Kuchma. M.: Publisher Scientific Center for Children's Health RAMS, 2012. 477 p.
7. Public health and the activities of health organizations of the Kyrgyz Republic. Collection of statistical materials 2018. P. 68, 89-92.
8. Overview of infectious and parasitic morbidity in the Kyrgyz Republic for the January-December months of 2015-2016. // *Sanitary and Epidemiological Service and Public Health (SEZiZN) Newsletter*. 2016. P. 1-8.
9. Baranov A.A., Ilyin A.G. Actual problems of preserving and strengthening children's health in the Russian Federation // *Russian Pediatric Journal*. 2011. No. 4. P. 7-12.
10. Kozhakhmetova A.N. The value of good nutrition in shaping the health of children and adolescents // *Health of Kyrgyzstan*. 2016. No. 1. P. 21-25.
11. Decree of the Government of the Kyrgyz Republic “On the catering of students in state and municipal secondary schools of the Kyrgyz Republic.” on 09/18/2006 No 673.
12. Atambaeva R.M., Mingazova E.N., Isakova Zh.K. Standards for the physical development of urban and rural school-aged children (7-17 years old) in the high regions of the Kyrgyz Republic. Toolkit, Moscow-Kazan. 2017. 40 p.