CATERING SERVICE AND ITS QUALITY FOR UNIVERSITY STUDENTS IN MUNICIPAL FORMATION

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Abstract: More and more works are published in scientific literature, concerning the study of students' health and the factors, influencing it, the most important role among which is devoted to rational nutrition. Scientists proved that students' special life style, age-specific peculiarities, intense intellectual and physical activity, irregular studying schedule, lack of money, personal disorderliness and other conditions of students' life demand for special attention to the arrangement of their nutrition. The results of sociological researches, conducted among the Russian students (in Kemerovo and the Kemerovo State University) demonstrate quite a critical relation of students to the quality and functioning of catering service at universities and to price availability of meals in canteens. The analysis of foreign and Russian experience of healthy catering service for students leads to the conclusion that students' centralized nutrition in municipal formation needs to be arranged according to the mechanisms, regulated by the federal program “Shkol'noe pitanie” [School nutrition]. The offered project of the city research and production complex for production of ready meals and semi-finished products for university canteens will allow to increase the students' nutrition quality, improve their health, provide cost efficiency of university public catering, create new workplaces in the city, involve local producers in foodstuffs procurement, develop and implement special programs for students etc.

Keywords: Nutrition, students, health, morbidity, quality of food, canteen, food habits, catering service, municipality

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INTRODUCTION

According to the Law “Ob obrazovanii v Rossiyskoy Federatsii” [On Education in the Russian Federation] (article 28, clause 15) creation of necessary conditions for preservation and strengthening of health of and catering service for students and employees of educational organizations is established for educational organizations (Federal Law dated as of 29.12.2012 No. 273-FZ (reviewed on 02.03.2016) " Ob obrazovanii v Rossiyskoy Federatsii" [On Education in the Russian Federation]). URL: http://www.consultant.ru/ document/cons_doc_LAW_140174/). Despite the fact that nutrition is not the main activity of educational organizations, normal study and upbringing processes are impossible without it, including at universities. Therefore, nutrition quality issues and its effective arrangement at universities should be paid much attention to by management and public organization of university on the one hand, and by scientists on the other.

The issue of students' nutrition is cross-disciplinary. Medics, biologists, ecologists and hygienists consider the issues of rational nutrition, its element-by-element content, caloric content, influence on health and safety. Specialists in the field of foodstuffs production and recycling and in the field of cooking methods study nutrition technological aspects. Sociologists and psychologists study consumer behaviour, stereotypes, nutrition culture and relation to healthy nutrition and pernicious food habits. Topics, dealing with qualitative nutrition arrangement, price policy, cost efficiency of student canteens operation, cafes and buffets belong to economic and administrative science.

Attention to students' nutrition in Russia has been paid to for a long time - even at the end of the 19th century the Russian Society of Public Health Safety offered to arrange "normal canteens" in Moscow and Saint-Petersburg for the studying youth, where nutrition would be based on physiological standards [1]. The results of many researches of the latest decades show that the issues of students' nutrition and its arrangement are relevant and require a serious consideration. Thus, the most frequent nutritional disorders of students, revealed in researches of the 1990s, were irregularity (36%) and dry eating (31%). This resulted either in weight loss (41%), or in overweight, which was found in 9% of students. In surveys students of that time mentioned a sharp increase in food prices at its low quality. Student public catering was becoming unavailable for more than a half [2].

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Modern researches (I. P. Balykova et al. [3], E. A. Goreva et al. [4], N. A. Drozhzhina et al. [5], N. N. Zarubina [6], S. A. Krylatov [7], A. V. Noskova [8], Zh. V. Puzanova et al. [9], S. I. Samygin et al. [10], N. V. Semenova et al. [11]) underline preservation of tendencies of nutrition disorder among university students, but nowadays, they are added by rare eating of hot meals and appearance of new food habits – eating a lot of fast food, high-fat, refined products, chips, instant food and drinking a lot of carbonated drinks, made on the basis of chemicals.

Researchers refer lack of money, intensity of studying and lack of attention to their own health to the reasons, causing balance and nutrition disorders of students. They think that high prices and low quality in student canteens together with economy in nutrition leads inevitably to health disorder [12]. It is not surprising that digestive organs diseases have a high position in the structure of morbidity and chronic diseases.

Sector of health social problems of the Institute of Sociology of the Russian Academy of Sciences conducted annually from 2001 till 2008 a monitoring Moscow Students' Health (2363 respondents); according to its results, negative dynamics of students' morbidity are registered. It became clear that the most spread diseases are gastrointestinal (gastritis, colitis), pulmonary and cardiovascular. The monitoring data also revealed a persistent growth in the number of Moscow students with chronic diseases, their number increased by 10% during the observance period. It is stated that there are more junior and senior students among them, then freshmen and sophomores. Researches point out the existence of interdependence between chronic afflictions among students and their level of prosperity. In the low-income group every second person has some chronic disease, in the average-income group each third respondent has it [13].

Foreign scientists [14, 15, 16, 17] also pay much attention to the issues of nutrition of student youth. Their research results should be taken into account, developing the ways of improvement of food quality and nutrition arrangement for students in Russia.

Brief review of the problem under consideration shows that non-standard approach is needed for a significant breakthrough in university catering service. This approach should firstly be based on the best practices of catering service for students and secondly should take into account the specific feature of the territory (region, municipal formation), on which a university (institutions) is located.

The objective of the present paper is to justify the necessity of improvement of catering service for students of universities of a municipal formation (by the example of Kemerovo) to improve quality of their nutrition and to offer a corresponding variant.

OBJECTS AND METHODS OF STUDY

The object of the present research is university students in Kemerovo; the subject is quality and arrangement of their nutrition in educational organizations.

62109 people are studying at universities of Kemerovo Oblast'. Most of students are part-time ones – 30638 people, 29903 people are full-time students and 1668 people are full-and-part-time students (according to the data of October, 2015). The greatest university is the Kemerovo State University. 17289 students are studying at it, including 9164 people, studying at the branches.

There are several universities in Kemerovo: Kemerovo State University (main university – 8125 people), Kuzbass State Technical University (main university – 7339 people), Kemerovo Institute of Food Science and Technology (5265 people), Kemerovo State Medical Academy (3215 people), Kemerovo State Agricultural Institute (2994 people), Kemerovo State Institute of Culture (2821 people), branches of educational organizations in other regions (3651 people). The total number of students at Kemerovo universities is 33410 people or 6% of the city population.

The specific features of studentship are: age-related characteristic from 17 to 25 years old; specificity of educational activity (intellectual nature of labour, regulated by the university curriculum, specific resting time rules), income structure (scholarship, parents' aid, individual earning). The obvious significant feature of this group, which draws attention of researchers, is student age. Thus, it is stated that this period is the most important for formation of personal position, establishment of a wide range of social relations, exploration of the future professional activity, adoption of new behavioural norms and orientation to the desired social roles [18]. Herewith, the researchers do not have a unified position on the essence of the definition of student age. A famous sociologist I. S. Kon analysed the specific features of the student age and pointed out the priority of a social aspect. That is because time boundaries of studentship clash with the period of adolescent age which is complex and contradictory but significant for the social maturity of an individual [19, 20]. M. Ya. Vilenskiy and S. O. Avchinnikova point out the priority of psychophysiological aspect, analysing the student age. They characterise it as a period of peaks of organism physiological potentials [21].

Studying studentship, other aspects are also highlighted, associated with the difficulty of studying at a university. They are organizational conditions and organism psychophysiological peculiarities (V. V. Zashikhina et al. [22], O. F. Kushnerova et al. [23], E. M. Kharlanova [24] etc. [25]).

As it has been stated earlier, one of the incomes (and often the main one) of a student during his/her studying is scholarship. At state universities students are assigned a state academic scholarship, which differentiates, in particular, depending on the location of an educational organization. For example, the minimum size of the state academic scholarship for students of the Kemerovo State University, who have passed exams with good and excellent marks, is 1930 rubles per month and for the students who have only excellent marks it is 2895 rubles (the Russian Federation Government Decree dated as of

18 November, 2011 No. 945 “O poryadke sovershenstvovaniya stipendial'nogo obespecheniya obuchajuschikhsya v federal'nykh gosudarstvennykh obrazovatel'nykh uchrezhdeniyakh professional'nogo obrazovaniya” [On Procedure for Improvement of Scholarship Provision in Federal State Educational Organizations of Professional Education]). URL: http://base.garant.ru/12191951/).

Students, studying at the expense of budget funds and who needs social aid, upon presentation of supporting documents, are assigned a state social scholarship of 2895 rubles per month, students, passing the exams with good and excellent marks, have a scholarship of 4824 rubles, with excellent marks – 5789 rubles.

Mandatory payees of social scholarship in accordance with the law are children-orphans, disabled people of the 1st and the 2nd groups, liquidators of the Chernobyl accident, combat disabled people and veterans.

Senior students may be assigned an enhanced state scholarship if they have good and excellent marks, conduct active scientific-research, cultural and creative, sport and public activity and have achievements in studying. The scholarship size is determined by the University Academic Senate, involving representatives of student government.

In certain cases, freshmen and sophomores in need may also be assigned such a scholarship. Its size for students with excellent marks is 9965 rubles, with good and excellent marks – 9000 rubles (Russian Federation Government Decree dated as of 2nd July, 2012 No. 679 “O povyshenii stipendiy nuzhdayushchimsya studentam pervogo i vtorogo kursov federal'nykh gosudarstvennykh obrazovatel'nykh uchrezhdeniy vysshego professional'nogo obrazovaniya, obuchayushchimsya po ochnoy forme obucheniya za schet byudzhetnykh assignovaniy federal'nogo byudzheta po programmam bakalavriata i programmam podgotovki spetsialista i imeyushchim otsenki uspevaemosti “khorosho” i “otlichno” [“On enhancement of scholarship for full-time freshmen and sophomores in federal state educational institutions of higher professional education, who study bachelor or specialist learning programs at the expense of budgetary funds of the federal budget and who have good and excellent marks”]). URL: http://base.garant.ru/70196772/).

Financial support may be paid to students as a financial aid. Full-time students of the vulnerable category (orphans, disabled people, students from a large family, low-income students) may be provided with a food package.

Students-orphans or students who lost their parents have the right for full state support which presupposes free nutrition or refund for it (from 2014 it is 260 rubles for a working day and 286 rubles for a day off or a calendar day), provision of clothing kit or inventory (or refund of their price according to the norms), right for free accommodation in a dormitory and for free medical care during the whole period of studying (Federal Law "O dopolnitel'nykh garantiyakh po sotsial'noy podderzhke detey-sirot i detey, ostavshikhsya bez popecheniya roditeley" [“On additional guarantees of social support for children-orphans and children, lost their parents”], dated as of 21st December, 1996 No. 159-FZ). URL: http://base.garant.ru/10135206/; (Russian Federation Government Decree dated as of 7th November, 2005 No. 659 “Ob utverzhdenii norm material'nogo obespecheniya detey-sirot i detey, ostavshikhsya bez popecheniya roditeley, lits iz chisla detey-sirot i detey, ostavshikhsya bez popecheniya roditeley, obuchayushchikhsya i vospityvayushchikhsya v federal'nykh gosudarstvennykh obrazovatel'nykh uchrezhdeniyakh, nesovershennoletnikh, obuchayushchikhsya i vospityvayushchikhsya v federal'nykh gosudarstvennykh obrazovatel'nykh uchrezhdeniyakh – spetsial'nykh professional'nykh uchilishchakh otkrytogo i zakrytogo tipa i federal'nom gosudarstvennom uchrezhdenii “Sergievo Posadskiy detskiy dom slepoglukhikh Federal'nogo agentstva po zdravookhraneniyu i sotsial'nomu razvitiyu” [“On approval of norms of financial support for children-orphans and children who lost their parents, persons from among children-orphans and children who lost their parents, who study and are brought up at federal state educational institutions, of persons who have not reached the age of majority, who study and are brought up at federal state educational institutions - open- and closed-type special professional schools and at the federal state institution Sergiev Posad boarding school for children with blindness and deafness of the Federal Agency on healthcare and social development”]. URL: http://base.garant.ru/188814/).

To justify the necessity of improvement of approaches to student catering service, the following methods were used in the present research as the main research methods: analysis of statistics, official documents and other materials; secondary analysis of sociological researches results; comparison and analogy. For a deeper study of catering service system at Kemerovo universities, the Kemerovo State university experience was additionally analysed (results of several representational for the university sociological researches).

RESULTS AND DISCUSSION

In the current context, students experience greater burden at conscientious attitude to learning. The study process requires memory exertion, attention concentration, is often accompanied by stressful situations associated with exams, tests and intermediate control. The consequences of students' mental strain in combination with reduced physical activity may be health deterioration, working capacity decrease and decrease in resistance to various diseases. The process of adaptation to the new social conditions, associated with studying at a university, may cause depletion of body physical reserves, especially during the first semesters [26, 27]. All this requires from students the observance of a healthy lifestyle and, first of all, of healthy nutrition principles.

However, definitive conditions for a healthy nutrition, which meets the requirements of normal functioning of a young organism, have not been created

yet, which is proved by the data of the sociological research "Kuzbass Student", conducted in 2013 in Kemerovo Oblast' by the sociological laboratory of the Kemerovo State University by the decision of Expert Advisory Body of the region universities on monitoring of attitude of educational process subjects to socially significant events, which covered 2973 students of the 9 universities of the federation subject. Let's refer to the data, obtained during this research, on Kemerovo universities as a whole (2444 students of 7 universities) and on the biggest university in the region – the Kemerovo State University (566 students have been questioned).

Defining the most relevant problems of students, respondents have been offered to assess quite a wide range of these problems (21 items), from which one could select up to 6 variants. The data indicate that students of different universities have ranged their difficulties differently, but the lack of money for food appeared to be in the top of ten most significant problems – at the Kemerovo State University 16% pointed out this problem, at other Kemerovo universities – 17%. Data comparative analysis results, depending on social and demographic characteristics, showed that at the Kemerovo State University and at Kemerovo universities totally this problem disturbs, first of all, low-income students, studying on a budgetary basis and living in university dormitories.

In the course of the research under consideration the respondents were questioned about the expenditures which are most relevant for students in terms of financial support (the respondents were offered a list of financial costs, specific for studentship) (see Table 1). The question presupposed the possibility of choosing several answers (up to three), therefore, the sum of percentage in each column exceeds 100%.

Judging by the obtained answers, expenditures for food are the most problematic item of expenditures for the majority of students; 59% of respondents at the Kemerovo State University and 58% of respondents at other Kemerovo universities specified it. Comparison of data on socio-demographic characteristics showed that this measure is more important for freshmen living in dormitories, students studying on a budgetary basis and low-income students.

The represented sociological data on Kemerovo demonstrated the relevance of student qualitative catering service arrangement. But the results of researches, conducted in different years at the Kemerovo State University, allow to make a more detailed justification of the analyzed problem.

Thus, according to the data of representational sociological surveys, dealing with health problems and conducted among the Kemerovo State University students (the researches have been conducted by the sociological laboratory of the Kemerovo State University among students of first to fourth courses of all faculties in April-May, 2012 (covered 1066 respondents) and March-April, 2011 (covered 1096 respondents)) [28], only each forth-fifth respondent kept healthy nutrition to enhance health (see Table 2), they put this measure on a third place after taking vitamins and dietary supplements (55–59%) and sports activity (41–46%).

As well, the results of this research showed that irrational nutrition together with irrational schedule were the main reasons for suffered diseases during the study at the Kemerovo State University (see Table 3).

Moreover, the digestive system diseases are in the second place by frequency among the list of diseases which students suffered during the years of study at university, they have been noted by a quarter of respondents (see Table 4).

Table 1. Material expenditures, most relevant for financial support (% from the number of respondents)

Answers	Kemerovo State University	other universities of Kemerovo
no such expenditures	3	6
expenditures for food	59	58
expenditures for public transport	39	42
expenditures for getting to a place for students living outside the city	36	32
accommodation expenditures	33	27
expenditures for treatment and disease prevention	24	24
expenditures for the Internet	23	20
expenditures for cultural events	16	16
expenditures for study materials	8	6
expenditures for scientific-research activity	3	3
other expenditures	2	3
no answer	4	5

Table 2. Forms of enhancing personal students' health, 2011, 2012 (% from the number of respondents)

Forms of enhancing health	2011	2012
Take vitamins, dietary supplements, herbs	55	59
Do sports	41	46
Keep healthy nutrition	22	25
Do exercises, harden	15	21
Do not enhance health	18	11
Are constantly followed up by a doctor, are treated as outpatients	11	13
Are treated as inpatients periodically	7	7
Are treated in sanatoriums, preventative clinics etc.	4	9
Travel to the sea during holidays	13	14
Take massage or physiological treatment courses periodically	9	9
Visit quacks	2	3
Other forms	2	2

Table 3. Reasons for suffered diseases, 2012

Reasons	% from the number of respondents
Irrational nutrition	37
Irrational schedule	37
Intensity of exams	29
Heavy academic load	29
Careless attitude to the own health	25
Unfavourable accommodation conditions	14
Genetic predisposition	14
Insufficient physical activity	11
Unfavourable studying conditions	10
Pernicious habits	6
Frequent conflicts in a family	2
Frequent conflicts in a group	1
Other	4
No answer	7

Table 4. Diseases, suffered by students during the study at university, 2012

Diseases	% from the number of respondents
Infectious diseases	39
Digestive system diseases	24
Eye diseases	20
Traumas	18
Nervous system diseases	17
Genitourinary system diseases	10
Respiratory system diseases	11
Heart and vascular diseases	9
Ear diseases	6
Other diseases	4
No diseases	25

It should be mentioned, that less than a quarter of respondents (23–24%) considered their nutrition as rational and balanced. More than a half of respondents (54–57%) claimed that they have malnutrition. There are problems also with nutrition regularity: only a third part of students (33–35%) ate regularly during a studying day; approximately the same number (28–36%) ate irregularly; and approximately the same part (31–37%) ate on different days differently.

The represented data obviously prove the necessity of arrangement of effective operation of catering outlets at universities. The opinion of students and lecturers of the biggest university in Kemerovo Oblast' on the functioning of these outlets was studied repeatedly.

The results of sociological research, conducted at the Kemerovo State University in 2012–2013 academic years among the students and teaching staff (2294 of students from a freshman to a senior and 567 lecturers of all faculties took part in a questionnaire survey) showed that only each second lecturer and a little bit more than a half of students (56%) think that there are quite enough or rather enough catering outlets at the university, 41 and 42% of respondents respectively think opposite.

Upon the whole, the negative dynamics are observed concerning the issue of sufficiency of catering outlets at the university - in the course of the 9-year monitoring research University [29] the number of positive answers is decreasing (see Table 5).

Table 5. Assessment by students and lecturers of sufficiency of catering outlets at the university (%, from the total amount of respondents)

Year	2000	2003	2006	2009
Assessment by students				
enough	47	41	32	28
quite enough	38	38	37	38
rather not enough	10	14	15	22
extremely not enough	4	6	15	11
failed to assess	1	1	1	1
total at the university	100	100	100	100
Assessment by lecturers				
enough	33	39	23	22
quite enough	50	42	49	43
rather not enough	9	13	16	23
extremely not enough	1	1	5	5
failed to assess	7	5	7	7
total at the university	100	100	100	100

According to the research data of 2012–2013 academic years, one-third of students used the Kemerovo State University canteen service several times in a week; other one-third part used it every day. The rest of respondents use the university catering service rarely (they are 18%) or those who did not visit canteens (16%). Thus, nutrition of each third student

may be considered a relatively healthy, moreover, according to the data of observation over consumer preferences, students choose meat and fish meals more seldom and cheaper salads, garnish, soups and baking - more often. Lecturers visit canteens more seldom than students – 36% of them have never used its service.

Fig. 1 indicates assessments by students and lecturers of different aspects of canteen operation. The obtained assessments are higher than the theoretical average one (3.0 points), but lower than a "good" level. The highest assessments were given to the food quality and personnel work, price availability got the lowest assessment. On the average, the canteen operation was assessed by students by 3.5 points, by lecturers – by 3.6 points. The comparison of assessments of different university canteens showed that in buildings, located far from the university administrative building, all aspects of canteen operation were assessed lower.

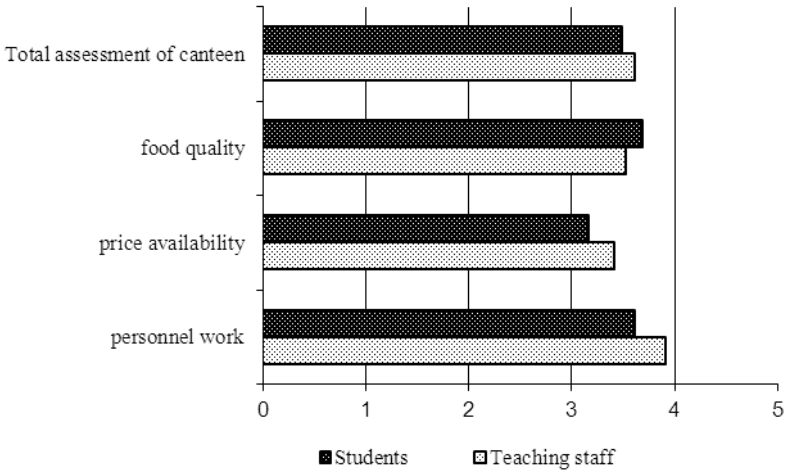

Fig. 1. Assessment of the Kemerovo State University canteen operation, which is visited most often by students and lecturers, by three aspects and upon the whole (by a 5-point scale, where 1 point is very badly, and so on increasingly, 5 points - very good) (points).

Comparison of indicators of students' attitude to canteens operation depending on their prosperity level showed an interesting interdependence - those, who have greater prosperity, gave more loyal assessments to the all items of canteens operation and those, whose financial possibilities are more limited, assessed it more critically. Based on the foregoing, we can state that students are not satisfied with canteens operation because of high prices and food quality, and this causes eating of less healthful food. In general, the opinions of students strongly enough coincided with the views of the teaching staff, which further confirms the reliability of the results.

According to the data of another all-university research, conducted in spring, 2014 (sociological research covered 963 students from freshman to senior of all faculties), less than a half of respondents (42%) could afford a healthy nutrition; almost as many as those who have to economise for it (41%). There are quite a few of those (12%), who "have to economise harmfully for nutrition, because money is not enough at all" (12%). According to the data of comparative analysis, students, having a lower income and living in a dormitory, were in a more vulnerable position.

Thus, a sociological substantiation, built on the data secondary analysis, demonstrated the importance of a more careful attention to students' nutrition arrangement. In this case it is necessary to study the respective experience of different countries, Russian regions and municipal formations, in particular, the experience of nutrition arrangement in comprehensive schools, which has been gained during the Russian reform in school catering service.

In most countries of the world with advanced state welfare activities, systems of pupils' centralised catering service are provided, where state subsidy is up to 80% of the diet price. Parents are also involved in school catering service financing; the method of multi-way financing is implemented. In the context of students, such systems are practiced in the frameworks of general nutrition programs.

In the USA (Food and Nutrition Service. URL: http://www.fns.usda.gov/programs-and-services) healthy children nutrition is implemented due to the current special programs. Thus, the National School Lunch Program is applied to children up to 18 years and covers more than 31 million Americans every day. Under this program school dinners shall comply with the specially designed nutrition standards, which presuppose a certain number of calories, an increased availability of fruits, vegetables and whole-grain products.

School Breakfast Program presupposes that breakfasts shall be included in nutrition regime. The program presupposes measures, motivating and encouraging pupils and their families to use school breakfasts.

Special Milk Program is intended for institutions that do not take part in the above-mentioned nutrition programs. Under this program, children may get milk

for free or buy it at a reduced price (depending on the type of institution and program).

Under the Child and Adult Care Food Program, the standards of rational nutrition are developed. Most of its participants are preschool children who may get a balanced two-meal nutrition. The right to use this program depends on the poverty status of the district or on incomes.

Financial support for nutrition programs is implemented by the United States Department of Agriculture through a compensation for cash and product expenditures, as well as through financial aid to states to cover administrative costs, associated with the programs. Programs control in state institutions and schools is implemented by states individually, and in private schools and non-governmental institutions they act trough special Food and nutrition services.

30.5 million pupils are provided with breakfasts and dinners as a result. Multi-way financing is implemented: each school, participating in the programs, receives federal subsidies directly on the school account or on the account of the district administration, to which it relates; from the nearest agricultural products suppliers schools also receive different food packages in the line of the Department of Agriculture in the amount of 20.75 dollars per dinner per pupil; from parents, who do not have any exemptions, a school receives from 15% to 90% of the pupils' nutrition cost. Totally, under all the programs approximately 12 billion dollars are appropriated in the USA for free nutrition.

In Great Britain (Children's Food Trust. URL: http://www.childrensfoodtrust.org.uk/childrens-food-trust/schools/) systems of centralised catering service have the old-established tradition: in 1906 recommendations for municipal authorities were adopted for provision of free nutrition for pupils.

To the beginning of 1970s the country developed the available centralized nutrition system, which covered the majority of students, and for students from poor families it was free of charge. Since Margaret Thatcher has come to power in 1979, the program was phased out because it was considered costly and bureaucratic.

After school catering service had been criticised by the famous chief cook James Oliver, in 2005 extra-departmental state body was founded under the UK Department of education and training - School Food Trust. The Trust created the biggest national network of healthy culinary clubs for children and families with the support of a grant from the state and commercial organisations. Nowadays, the Trust is a registered philanthropy organization and a special advisor to the government on the issues of school catering service, children nutrition and the skills, associated with it. The main task is to ensure that all children have a balanced diet, cooking skills and education which will help to fully realize their potential. Cooking clubs activity covers 1.7 million people. Nearly all (92%) use their new skills at home, 58% of participants point out that they have a healthy diet due to the fact that they have learned to cook. Another big project of the Trust is training centres School FEAST Network (School Food Excellence And Skills Training Network). Under this project cooks of school canteens may improve their qualification to the 2nd level in accordance with the national standards. It is supposed that cooks of higher qualification will be able to provide better nutrition quality in children institutions.

School nutrition Service in Finland (Finnish Free School Meals are a central part of the food culture. URL: http://www.elo-saatio.fi/finnish-free-school-meals) provides daily free nutrition for approximately 830000 pupils from 7 to 19 years old.

The history of free nutrition is associated with the adoption in 1943 of the law under which municipalities were obliged to provide free breakfasts for pupils. Nutrition complex consists of traditional Finnish products and includes main hot course, vegetables, bread, fat-free or low-fat milk and water.

Special diets are being developed, which include increased content of vegetables, fruits and whole-grain products. According to the recommendations, in educational institutions the number of sweets and sweet carbonated drinks shall be minimised; thus, vending machines and school kiosks shall offer healthy and nutritious products.

Municipal and school training programs define the central nutrition principles. Municipalities allocate resources for school catering service and are responsible for the program implementation. Implementation, quality and efficiency are the components of general education assessment. Pupils have a possibility to take active part in the assessment at obligatory attention to their feedback.

On the average, the price of products for cooking one dinner is 0.6–0.8 euros. Food is more expensive for those who need diet food. The amount of financing of school nutrition is 354 240 euros. Average price of one school dinner is about 2.64 euros. Applying multi-way financing, state obliges municipal budgets by law to provide pupils with free nutrition, which is due to tax revenues to local budgets and revenues from religious communities. Commercial operators and Social-purpose Products Management deal with pupils' nutrition arrangement. Parents are excluded from the number of school catering service investors.

In some countries there are special programs of nutrition for students. Thus, in Canadian Toronto there is a functioning program Student Niutriton (Student Nutrition Program. URL: http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=ecad946d1d592410VgnVCM10000071d60f89RCRD), which covers 160 thousand people daily. Under the program, students get breakfast, lunch and dinner. The founders of this program claim its following tasks: provision of nutrients and energy, creation of healthy food habits, prevention of obesity. The municipality of Toronto allocates grants annually to school/student communities which arrange healthy nutrition for students in educational organisations. However, this financing covers only a small part of total expenditures for the program. The greatest part of program financing comes from parental contributions and local fundraising.

For example, the US Department of Agriculture introduced an electronic debit card instead of meal coupons. Traditionally, meal coupons were offered for working poor and single parents, most working young people older than 18 years old, studying at a college or other university, do not have the right to receive benefits of the supplemental nutrition assistance program (SNAP), but under the certain conditions, for example, presence of dependants, terms of benefits provision are softened (Supplemental Nutrition Assistance Program (SNAP). URL: http://www.fns.usda.gov/snap/students).

In Russia the experience of nutrition programs implementation is realised meanwhile in the system of school catering service. However, nowadays, the project of the federal law on social nutrition is being actively discussed and drafted. At the present time, in the Russian Federation social nutrition is provided for the population groups on the basis of the federal law "Ob osnovakh sotsial'nogo obsluzhivaniya grazhdan v Rossiyskoy Federatsii" [On principles of social service for citizens in the Russian Federation], No. 442-FZ dated as of 28.12.2013 (Federal law dated as of 28 December, 2013 No. 442-FZ " Ob osnovakh sotsial'nogo obsluzhivaniya grazhdan v Rossiyskoy Federatsii" [On principles of social service for citizens in the Russian Federation] URL: http://base.garant.ru/70552648/#help). This law specifies the population groups, provided with social service, as well as indicates that provision of social service recipients with free hot meals is included in the list of social services. The law on social nutrition operates in Saint-Petersburg from 2008 and is being elaborated in Moscow, Tver etc. Experimental sites for implementation of this system are operating in some regions. According to the law, socio-economic system should be created, associated with servicing of various categories of consumers. Social nutrition is a possibility to provide nutrition at the budget expense for certain categories of citizens to ensure social guarantees, stipulated by the current legislation. Under this proposal the following nutrition systems by the consumer contingent are pointed out: working, student, school, children, therapeutic nutrition and the one in military educational institutions. They have a common designated purpose but differ in the significance level and the degree of population coverage.

Norms of catering service at universities will be included in a separate section in this bill. So, we can assume that the catering service system at universities will be built on the model of school catering service.

Under the implementation of the Federal program "Modernizatsiya shkol'nogo pitaniya" [School Catering Service Modernisation], the main aim of which is "complex modernisation of the system of school catering service: provision of 100% of pupils with balanced hot meals in accordance with physiological needs of children and hygiene requirements for catering service", in municipal formations, beginning with 2008 combines of school catering service have been founded in the form of state unitary enterprise and municipal autonomous institutions for the possibility to arrange centrilised production of high-quality products under the single production cycle regardless the personnel qualification level of educational institutions food units.

Thus, for Kemerovo schools the municipal autonomous institution (MAI) "Shkol'noe pitanie" [School Catering Service] produces meals for school canteens (School Catering Service. – URL: http://мау-шп.рф/), which was founded by the decision of the Kemerovo Municipal Property Management Committee (No. 639 dated as of 09.04.2008 in accordance with the Kemerovo Mayor Decree No. 1356 dated as of 04.04.2008). Under the implementation of the project "Shkol'noe pitanie" [School Catering Service] from 2008 till 2011 nearly all school food units were modernised (only a few units, which meet the modern requirements, remained without modifications): facilities were reconstructed, equipment and furniture in dining halls were replaced, cyclic menu was designed, innovative approach to cooking treatment was implemented, the system of quality and nutrition control of pupils was designed.

To involve the maximum number of pupils in rational nutrition, the Kemerovo administration compensates the fifth part of all enterprise expenditures and this allows to ensure the price of school meals lower than the market one. Moreover, the innovations affected also the payment procedure for school catering service, which is made with the use of billing system, which allows parents and form-masters to solve the issues of nutrition process management at the modern level (payment, expenditures control, nutrition orders forming etc.). The module "Shkol'noe pitanie" [School Catering Service] is a part of the service "Elektronnyj zhurnal" [Electronic Journal].

MAI "Shkol'noe pitanie" [School Catering Service] practices production of 20-day menu which is formed in complexes and is regularly renewed (taking into account the season). Meals are not repeated in the menu. The used products have a high nutrition value; they are treated with a low-impact technology, aimed at minimising the loss of nutrient substances during cooking. Careful attention is obligatory paid to the quality and safety of raw materials and finished products. MAI "Shkol'noe pitanie" [School Catering Service] Process Department together with Rospotrebnadzor [Federal Service on Surveillance for Consumer Rights Protection and Human Well-being] and Inspection Committee in an educational institution are responsible for control in this area. The following is conducted under the production control: laboratory control of raw materials and finished products quality; field inspections of food units by the specialists of Rospotrebnadzor [Federal Service on Surveillance for Consumer Rights Protection and Human Well-being] and instrumental examination of microclimate, light and noise. Raw materials and finished products quality are controlled by the specialists of enterprise process department and by the enterprise sanitary inspector.

In conclusion of review of the practice of pupils and students catering service and its regulatory support, it should be mentioned that nowadays, the Common Standard of student nutrition is being developed in Russia, initiated by the Russian Student Community

(RSC). In this Standard a list of approximate products package is alleged, as well as their caloric content, national cuisine peculiarities, price indexes and advice, how to provide a healthy nutrition on a scholarship. Such standards may be differentiated by regions and many federation subjects showed interest in this project (Khromov A. V Rossii k oseni poyavitsya Edinyy standart pitaniya rossiyskikh studentov [In Russia the Common standard of the Russian students nutrition will appear by spring]. URL: http://www.edu.ru/news/education/v-rossii-k-oseni-poyavitsya-edinyy-standart-pitani/).

CONCLUSIONS

The analysis of the foreign and Russian practice of students and pupils catering service shows that principal improvement of student nutrition is possible only at circumspect comprehensive approach to its arrangement. The issue of student rational nutrition should have a status of the state program and there is a hope that the Russian state moves in the appropriate direction. However, taking into account the current economic situation, in the near future one cane face the barriers on the way to the centralised solution of the problem of students nutrition. In these circumstances, the regional and municipal bodies could take this issue under control. In this case, a management difficulty, associated with university departmental subordination, occurs, but when you consider that universities and institutions in remote areas train personnel, primarily for the economy of the respective regions, then this problem can and should be solved.

It seems that the task of centrilised catering service arrangement at universities may be resolved easier in relatively small municipal formations, on the territory of which there are several (up to ten) educational institutions of higher education. Kemerovo is precisely such a municipal formation. The important factor, which should affect the municipal complex arrangement positively and which provides students with healthy nutrition, is the presence in the city of the specialised university - the Kemerovo State Institute of Food Industry (University), which may be a scientific-methodological centre on the alleged production complex.

The new production complex should supply qualitative finished food, products and semi-finished products for cooking meals directly at universities, as well as train personnel of educational organisations canteens and control the nutrition quality in them. The alleged products should have optimum quality-price ratio, i.e. they should guarantee a high quality of products and services in combination with price availability. Enterprise should be equipped with the modern equipment, have experienced personnel, professional dietitians should conduct formulations, there should be a continuous quality control over both the incoming products and semi-finished products and over the outcoming products. Thus, the structure of production complex on centrilised production foodstuffs for universities in the city should include: scientific research laboratory for generation of scientifically grounded menu; laboratory control for conduction of incoming inspection and control over the outcoming products, including measures for production control in canteens and buffets of educational organisations; meat shop (meat and poultry dissection, production of coarse- and fine-lump semi-finished products, forming of semi-finished products; candy production, producing a wide range of small-piece baked products; culinary production of salads and culinary products; logistics centre, where common warehouses are located and raw materials are packaged for universities/buildings; kitchen factory for production of breakfasts and lunches for serveries.

The foundation of scientific research complex for provision of students of the city with nutrition, including dietary one, may solve the following social and economic problems: to improve students nutrition quality and, consequently, improve their health; unload universities from non-specific activities; provide cost efficiency and ability to manage public catering; create new workplaces, including high-technology ones; buy products from local producers more actively; develop and implement special programs (for students with different diseases, for vulnerable students, for students living in dormitories etc.) and others. In any case, centrilised student catering service arrangement in municipal formation is a subject, requiring careful attention and management decisions.

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