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CURRENT TRENDS IN THE HEALTH OF CHILDREN AND ADOLESCENTS LIVING IN THE ALDAN DISTRICT

ABSTRACT

The health of children and adolescents living in regions of the Far North is extremely actual. In these regions there is a clear effect on the body unmanageable climatic-geographical and social factors that contribute to the formation of various diseases. Organization of rational nutrition is the most important area in the health of the younger generation. We conducted a study of children and adolescents living in the Aldan district the RS (Ya), which included a comprehensive, in-depth examination of the health status of children, the determination of the elemental composition in biological substrates and questionnaire on nutrition. We diagnosed in children and adolescents more often diseases of the respiratory tract, gastrointestinal disorders and low vision. It was revealed that inadequate provision of macro - and micronutrients may lead to the development of various pathologies. Nutrition of children and adolescents is moderately rational; in addition to natural products they consume unhealthy foods. According to the results we gave practical recommendations.

Keywords: children and adolescents, health status, macro-, microelements, nutrition.

INTRODUCTION

The health of children is one of the most sensitive indicators of changes in environmental quality. Anthropogenic impacts, including excessive intake of heavy metals and the deficit of vitally important chemical elements and adverse climatic and geographical conditions of residence of a significant part of the population of Russia contribute to the reduction of health, primarily in children [1-4, 6, 7]. Deviations of intake of macro - and micronutrients, a violation of their ratios in the diet have a direct impact on the activities of the growing organism and can affect its resistance, adaptation mechanisms, impair mental and physical development, imperfection of homeostasis, metabolic processes, low immunity, chronic various diseases etc. [2, 3, 8, 11].

The Aldan district is located in the South of the Republic of Sakha (Yakutia), occupying one of leading places on volume of gold and probable reserves of gold, is one of the forest districts of the Republic. Around 18 localities, including 13 rural and 2 district towns, 3 village. In General, the Aldan area, the level of natural background radiation in settlements does not exceed the standard (33 MKR/hour) and is registered in the range of 20 mcR/hour, but it was noted that these indicators are still somewhat higher than the average values, and individual stations, Aldan and suburbs have higher values, up to 40 microroentgen/hour [5, 10, 12].

In the Aldan district of the small peoples of the North inhabit the towns, villages and lands of tribal communities. Over the past 20 years, the number of representatives of indigenous minority peoples of the North, who consider their national language native, is steadily declining: the Evenki of 2.5%, even 14% of Yukaghir – 15.7% and the Chukchi – 25% (Yakutia No. 286, November 19, 2010).

The development of social infrastructure of settlements in places of traditional residence and economic activities of the indigenous peoples of the North depends on many factors such as: sustainable financing and logistics, the improvement of regulatory documents in accordance with the future development of settlements, industrial infrastructure and traditional industries, in this connection, it is necessary to form new views and concepts of the social infrastructure of small settlements. As for the problems of medico-demographic situation and health services in places of compact residence of indigenous peoples (KMN) in the Republic of Sakha (Yakutia), it should be noted that in the structure of total morbidity is in the first place pathology of the respiratory system, in second place, injuries and poisonings, the third of diseases of the digestive system. Moreover, have a tendency of constant increase in the indices of diseases of the nervous system, etc. (Makarov, 2008), the most acute problem of alcoholism.

Thus, the aim of this work is to study the health status of children and adolescents living in the Aldan district.

MATERIALS AND METHODS

We analyzed data on number of diseases registered at patients, living in area of service of the medical organization of child and adolescent population for the year 2016: the city of Aldan, Tommot, S. Khatystyr. Nutrition was studied in 209 schoolchildren in the city of Aldan, the average age was 13.6□of 1.5 (11-17 years). Determination of the elemental composition of biological substrates took place was carried out using atomic emission and mass spectrometry with inductively argon plasma by the method approved by MOH in especially-because ANO «Center for biotic medicine», Moscow (accreditation certificate gsen.EN.CSC.311, registration number in State register POCC RU.0001.513118 on may 29, 2003). Processing of the results was carried out using the package of applied statistical programs SPSS 23.

Results

At analyzing data of appealability for medical aid in medical institutions during 2016 in the nosological structure in the first place were diseases of the respiratory system (58,1%), followed by diseases of the gastrointestinal tract (11.9), the third – eye disease (4.9), the fourth – diseases of the nervous system (3.5), the fifth – infectious and parasitic diseases (2.5), on the sixth – diseases of the skin, subcutaneous fat (1.8), the seventh – diseases of the ear and mastoid process (1.7), on the eighth and ninth – diseases of the blood and the urinary tract (1%) (Table 1).

Diseases of the respiratory system have half (58.1%) of children and adolescents, predominantly acute respiratory infections upper and lower respiratory tract (92.6%). Chronic tonsillitis, hypertrophy of the tonsils of various degrees were diagnosed in 1% of children, chronic bronchitis, bronchial asthma, allergic rhinitis – in 0.6%.

Diseases of the digestive system were observed in 11.9% of children and adolescents. This class of diseases are presented by the pathology of stomach, duodenum – 7.3%, hernias – 3,1, non-infectious enterocolitis – 1.9, and biliary dyskinesia is 2.7%, other diseases of the intestines – in 12.5%.

Pathology of the eye (4.9%) was presented by diseases of the eye muscles, disorders friendly eye movement, accommodation and refraction (myopia,

astigmatism, spasm of accommodation) – 71.6% of children and adolescents, conjunctivitis and keratitis – 24.1%.

Diseases of the nervous system have 3.0% of children and adolescents. Disorders of the vegetative (Autonomous) nervous system (23,4%), episodic and paroxysmal disorders (epilepsy) (7,9%), cerebral palsy (3.8%) and etc. were diagnosed.

Infectious and parasitic diseases was 2.5% of applied children aged 1 year to 14 years. At 9.3% of children identified intestinal infection, 3 (0,7%) children with viral hepatitis.

Diseases of the skin and subcutaneous fat were found in 1.8% of children. Frequent diagnoses were dermatitis contact – 52,5%, atopic – in 22.2%.

Diseases of the ear and mastoid was diagnosed in 1.7% of the child population, of which otitis media – in 46.5%, the outer – 14,3%, hearing loss at 4.8%.

Diseases of the blood and blood-forming organomagnesium in 1.0% of children and adolescents, including in most cases (79.8 per cent) were anemic.

Diseases of the urinary system identified in 1.0% of the child population, one third of them – glomerular, tubulointerstitial kidney diseases, other diseases of the kidney ureter.

Pathology of the endocrine system (0.7 percent) were represented by obesity in half of the cases (45.9 per cent), rarely were detected in thyroid disease of various degrees (27,6%), diabetes mellitus type 1 – 7 children.

In the class of congenital malformations (0.5%) were registered congenital anomalies of the heart (53,5%), nervous (24%) and other systems.

Pathology of the musculoskeletal system (of 0.5%) are established diseases of the joints (juvenile arthritis, reactive arthritis) - 65.7% of children and adolescents, at least – deforming dorsopathies.

Diseases of the circulatory system (0.3 percent), mainly represented by other diseases of the heart and blood vessels (cardiomyopathy).

Of tumors (0,3%) is more often benign, 21.4% of children with malignant forms of (often leukemia, malignant neoplasms of the Central nervous system).

According to appealability to medical facilities revealed that children and adolescents living in the Aldan district, mainly affects viral diseases of the upper and lower respiratory tract, disorders of the gastrointestinal tract, often associated with errors in the diet, loss of vision, vascular dystonia. Occur in children intestinal infection, the phenomenon of dermatitis, otitis. Less likely to be diagnosed anemia, kidney disease, endocrine pathology, diseases of heart, joints. The prevalence of neoplasms in children and adolescents Aldan area does not exceed the average figures for Russia as a whole.

Based on the analysis of the content of chemical elements in hair of children living on the territory of South Yakutia, revealed high rates of Co, Se, Sn, Zn, and relatively low - Be, Cr, Pb. The children had discovered an insufficient intake of a wide range of elements: Al, Co, Cr, Cu, I, K, Mg, P, Se, as well as high frequency low contents of Al, Cr, K, Mg. For girls was characterized by a high frequency of reduced content in the hair Co (up to 96%), Cu (100%), I, Se and a relatively high content of Fe, K, Mn, Na. The obtained data allowed to visualize the elemental profile of children [9].

Thus, we can conclude that this region of the country prosperous the elemental balance, as evidenced by the provision of essential chemical elements and a relatively low load of elements-toxicants. However, there is uneven provision of the child population of macro - and micronutrients and, consequently, there is a risk of development of various pathologies.

The analysis of questionnaires on frequency of consumption of food has shown that most students eat well (table 2). Every day, more than half of the children in the diet are meat (62,2%), soups (52,2%), fresh fruits (52.2 per cent). Almost half of all schoolchildren in the diet are fresh salads (41,6%), biscuits and cakes (41.1 per cent). The third and more children eat sausages (35.4 per cent), dairy products (34,0%), pasta (35,4%), sandwiches with cheese and sausage (32,5%), cereals (30.1 per cent), butter (30.1 per cent), eggs (28,2%), chocolates (39,2%), drink juices (38,3%), fruit drinks, compotes and jellies (34%), milk (28,7%), coffee (28.7 per cent). A small number of students every day in the diet are canned meat (13.4 per cent), rustic cream (22,1%), cakes and pancakes (19,6%), sweet drinks (17.2 per cent), cheese (15.8 per cent), cakes and pies (12.9 percent), caramel and marmalade (19,1%), seeds and nuts (15.3 per cent). The chips provided - at 11.5%, and instant noodles (instant noodles, Rolton) – 11.5% crackers bags – 7.2% of pupils. Almost all children and adolescents eat every day bread and drink pure water (Table 2).

In general, the school meals you could say are moderately rational, as in daily diet of natural foods there are also foods that contain digestible carbohydrates, refined sugar, TRANS fats, colors, flavors.

CONCLUSION

Thus, children and adolescents living in the Aldan district, mostly suffer from viral respiratory diseases, disorders of the gastrointestinal tract, often associated with errors in the diet, loss of vision, vascular dystonia. Register in the children the phenomena of dermatitis, diseases of the ear, anemia, kidney disease, endocrine pathology, diseases of heart, joints.

We noted the uneven provision of macro- and microelements in children that can lead to the development of various pathologies.

In general, the nutrition of children and adolescents moderately rational, in addition to natural products, children and adolescents take in food products containing easily digestible carbohydrates, trans - fats, colors, flavors.

To reduce the incidence and improve the health of children and adolescents there are required wellness activities, including lectures and interviews for children and their parents, classroom hours on the correct healthy eating lessons for

Table 1

Distribution of children by types of diseases

types of diseases ICD-10	2016 г.	
	абс.	%
I. Infectious and parasitic diseases	634	2,5
II. Oncology diseases	86	0,3
III. Blood diseases	248	1,0
IV. Endocrine diseases	178	0,7
V. Mental diseases	0	0
VI. Nervous diseases	760	3,0
VII. Diseases of the eye	1251	4,9
VIII. Diseases of the ear	440	1,7
IX. Cardiovascular diseases	88	0,3
X. Diseases of the respiratory system	14700	58,1
XI. Diseases of the gastrointestinal system	3024	11,9
XII. Diseases of the skin, subcutaneous tissue	463	1,8
XIII. Diseases of the musculoskeletal system	217	0,9
XIV. Diseases of the urinary system	248	1,0
XVII. Congenital malformations	157	0,6

Table 2

Frequency foods

How often do You consume the following foods, drinks and meals: Products	Every or almost every day	A few times a week	Less than 1 time per week	Do not eat very
Products				
1. Porridge (any cereal, including rice, semolina, buckwheat, oats, etc.)	30,1	32,5	29,7	7,7
2. Soups (any)	52,6	37,8	9,1	0,5
3. Dairy products (kefir, yogurt, swaret, etc.)	34,0	39,7	22,5	3,8
4. Cheese/curd, dish of cottage cheese	15,8	32,1	34,0	18,2
5. Fresh fruit	52,2	37,3	10,0	0,5
6. Fresh vegetables and salads fresh vegetables	41,6	42,1	12,4	3,8
7. Carrots	31,1	31,6	28,7	8,6
8. Beet	12,0	28,2	35,9	23,9
9. Cabbage	23,4	34,9	28,7	12,9
10. Zucchini	7,2	11,5	32,5	48,8
11. Sweet pepper	17,7	23,0	28,7	30,6
12. Bread	78,9	14,4	3,3	3,3
13. Meat dishes	62,2	31,6	5,3	1,0
14. Fish dishes	18,2	40,2	34,0	7,7
15. Eggs and egg dishes	28,2	37,3	27,3	7,2
16. Sausage	35,4	38,3	19,1	7,2
17. Chips	11,5	18,7	39,7	30,1
18. Crackers bags	7,2	19,6	35,9	37,3
19. Sandwiches with cheese, sausage, etc.	32,5	44,0	16,7	6,7
20. Cookies, gingerbread	41,1	38,8	15,3	0,5
21. Chocolate, candy	39,2	44,0	13,4	3,3
22. Caramel, marmalade, lollipops, marshmallows	19,1	39,7	30,1	11,0
23. Cakes	12,9	27,3	50,2	9,6
24. Pies, pancakes	19,6	38,3	33,5	8,6
25. Pasta	35,4	42,1	19,6	2,9
26. Stew	13,4	29,2	30,1	26,8
27. Butter	30,1	29,7	22,5	17,7
28. Cream rustic	22,1	22,0	32,1	24,8
29. Doshirak, Rolton	11,5	14,4	36,8	37,3
30. Seeds, nuts	15,3	31,1	32,5	21,0
Drinks				
31. Milk	28,7	21,5	21,1	28,7
32. Coffee	28,7	21,5	21,1	28,7
33. Juices	38,3	32,1	23,9	5,7
34. Morse	34,4	30,1	27,3	8,1
35. Compote, jelly	31,6	21,1	26,3	1,0
36. Tea	86,1	10,5	1,4	1,9
37.Water clean	84,7	10	3,3	1,9
38. Sweet carbonated water	17,2	18,7	38,8	25,4

General physical training.

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ORIGINAL RESEARCHES

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COMPLIANCE TO MEDICATION OF PATIENTS WITH PREVIOUS Q - POSITIVE MYOCARDIAL INFARCTION

ABSTRACT

In the article the issue of compliance to medication treatment of patients with previous Q - positive myocardial infarction within one year after discharge from the hospital is considered. 113 persons were included in the research. The control was conducted after 6 and 12 months. Lower compliance to treatment was noted concerning all groups: β-adrenergic blockers, APF/ARA inhibitors, double antithrombocytic therapy, with a greater proportion of reducing statins (50 %).

Keywords: secondary prevention, compliance.

INTRODUCTION

According to the WHO estimation, over 17 million people die from cardiovascular diseases (CVD) annually in the world. It is expected that CVD mortality rate will reach about 25 million people a year in the world by 2020 [2,6]. In Russia the death rate from blood circulation illnesses remains high and its share in the total mortality of the population for the last years has amounted to 59,1 % [1]. The current situation in Russia has been characterized by the high mortality rate in the country for last 15 years at the expense of young, able-bodied and reproductive age. According to many researchers, frequency rate of new cardiovascular complications and the mortality cases is noted to be the highest within the first 3 months after myocardial infarction (MI). Both patients with previous acute myocardial infarction and even patients discharged for further ambulant therapy have high risk of cardiovascular death and repeated MI [4,7,9].

The insufficient prophylaxis oriented on preventing the development and progression of the disease can be one of the reasons of high mortality rate from CVD and repeated MI in our country, it being based on the scientific concept of risk factors and struggle against them [5]. The secondary prevention is impossible without regular medication intake proved the efficiency in numerous clinical researches [3].

Aim: to study the compliance to medication treatment of patients with previous Q-positive myocardial infarction, at the level of primary health care.

MATERIALS AND METHODS

The work included data from the clinical survey 'Secondary prevention of patients with previous Q-positive myocardial infarction'.

The set of clinical samples was conducted in the department of urgent cardiology with a group of intensive therapy (DUC and GIT) of the Regional vascular centre (RVC) Republican hospital №2 - Centre of emergency medical care. The total amount of patients with Q - to positive MI, hospitalized since January 2013 till July, 2014 included 177 patients. Of them 64 patients withdrew from participation in the given research that states obviously their low compliance to the treatment. In this connection, 113 patients with Q - positive acute myocardial infarction from Yakutsk city were included in the survey. All patients signed the informed consent. The research report was approved by the local Ethical committee. Of 113 patients the transdermal coronary intervention was conducted at 99 (87,6 %).

Criteria for inclusion of patients in the survey:

- presence of Q-positive MI clinical and electrocardiographic signs;
- consent to the survey.

Criteria for exception of patients from the survey: development of lethality during hospitalization; acute cerebrovascular event within the last 12 months; comatose state; comorbidities: malignant tumor; nonresident patients; withdrawal from the survey.

For the division of patients into groups WHO age criteria were applied: from 25 till 44 years - young age, 45 - 59 years - middle age, 60 - 74 years - senior age, 75 - 89 years - senile age, 90 years and over - long-livers [5].

I group of able-bodied patients till 59 years consisted of 60 persons. 53 patients were included in II group at the age 60 and more senior - patients of retirement age.

AMI was diagnosed according to recommendations of the European society of cardiologists, 2012, based on clinical data, electrocardiographic results, significant increase in the level of cardiac enzymes in the blood and asynergy signs on the echocardiography.

According to the treatment standard of sharp coronary syndrome, the inpatients with AMI underwent the therapy including