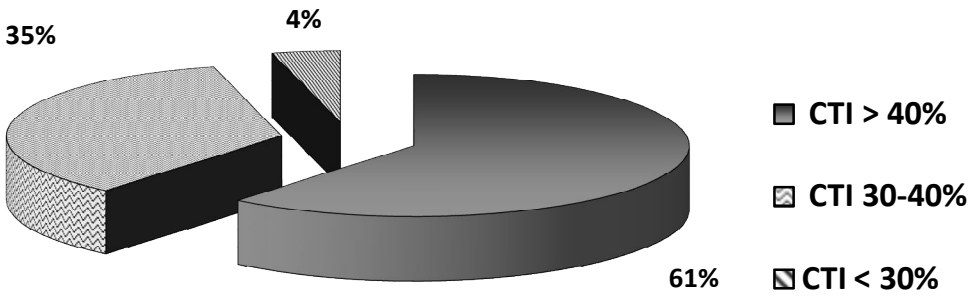

Fig 6 - CTI of the normosthenics

Besides, thickness of the soft issues was measured. It was ascertained that the students of the asthenic and normosthenic types have moderate adipopexia (the average number is 0.76 and 0.75). The ones with the hypersthenic habitus are more prone to adipopexia; their index is lower than the asthenics' one (0.7).

The measurement of the thorax showed that the asthenics had a tendency to the lengthening of the thorax. The relation between longitudinal and transversal diameters of the thorax was 1,75 (length of the thorax is about twofold of its half- width), the hypersthenics Had a flatter thorax in inferior-superior direction. Length of the thorax is close to its half- width (1,2). The Normosthenics have a tendency to imperceptible lengthening of the thorax. The Average data of this index = 1,57.

Conclusion.

This findings of thorax measurement confirm the generally accepted characteristic of each particular somatotype, that might be evidence of integrity of this experimental work.

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ЙОДНАЯ ПРОФИЛАКТИКА КАК ВАЖНЫЙ МЕТОД РАЗВИТИЯ НЕКОТОРЫХ ПСИХИЧЕСКИХ ПРОЦЕССОВ У МЛАДШИХ ШКОЛЬНИКОВ

Аннотация

В статье сопоставлено значение йодной профилактики школьников в развитии таких психических функций как внимание, память и интеллект.

Ключевые слова: йод, внимание, память, интеллект.

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PREVENTATIVE MEASURES OF IODINE DEFICIENCY AS AN IMPORTANT METHOD OF DEVELOPMENT OF PRIMARY SCHOOL STUDENT'S PSYCHICAL FUNCTION.

Abstract

The article considers the influence of iodine drugs administration on children's psychical functions such as intellect, attention and memory.

Keywords: iodine, intellect, attention, memory.

Almost the whole territory of the Russian Federation belongs to the region with iodine deficiency in the environment. This problem becomes especially acute when it comes to the younger generation, on the grounds that iodine deficiency causes retardation of some important children's psychical functions. [1, 2, 4]. There are reasonable grounds to believe that the problem of iodine deficiency is a serious modern madicopedagogical problem and requires search of an accessible approach to its solution.

This research work shows the approbation data of the necessary and sufficient conditions of iodine deficiency, which help us to activate children's psychical functions such as intellect, attention and memory.

The aim of the research work is to investigate the problem of the influence of systemic iodine drugs administration on primary school students' intelligence.

The process and methods of the research:

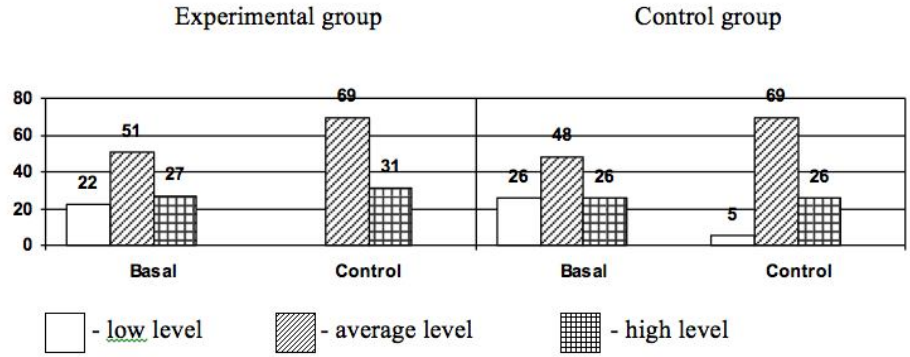
http://www.multitran.ru/c/m.exe?t=711070_1_2&s1=%F1%EE%E7%E4%E0%ED%E8%E5 %E7%E0%ED%EE%E2%EEForming an experimental (EG) and control groups (CG) of the first-form schoolchildren of Gymnasium №11 named after S.P.Dyaghilev (Perm city). These two groups were identical in age and progress in studies average.

Taking preventative measures of iodine deficiency (organized systemic administration of iodine drugs by children of EG during half a year)

Organization of diagnostics which records changes in their cognitive sphere using neuropsychological research methods (tests "Correction task", "Logical memory", Raven methodical technique and Cattell culture free test).

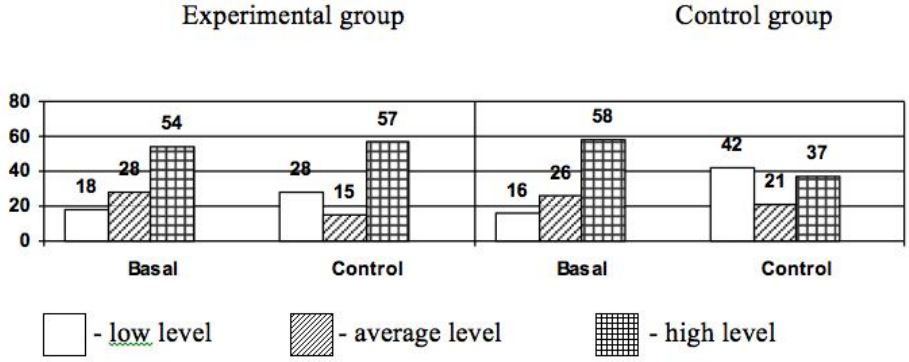
Results.

It was established that arbitrariness of attention in EG after experimental work is much better (pic. 1) - the low-level wasn't diagnosed (basal level – 22%), the number of children with the average level considerably increased – 69% (basal level – 51%). It was also observed that the index of the high level increased, too – 31% (basal level – 27%), that was not observed in CG. At the same time it is important to say, that the index of the low-level in CG decreased to 5% (basal level – 26%), the index of the average level increased (basal - 48% – control level - 69%), but there are no shifts in the index of the high level (26%).



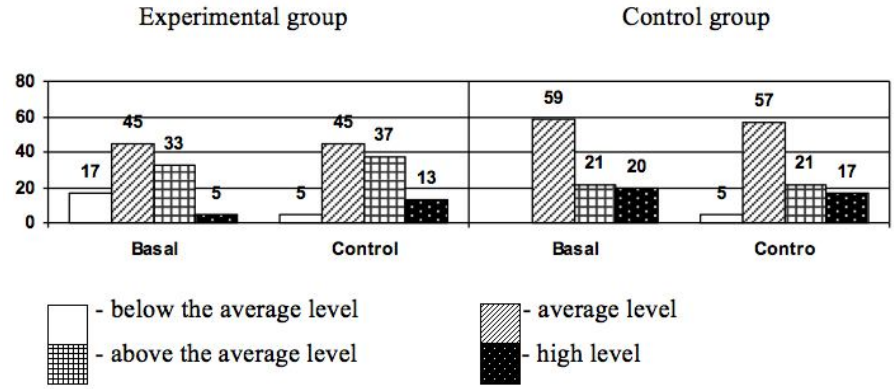
Pic. 1. Comparative data of attention productivity of the first-form schoolchildren before and after the experimental work (%)

Despite some negative dynamics in both the classes, experimental work showed that significant difference between EG and CG in logical memory appeared (pic. 2). Thus, the high level in EG was examined in 57% of children from EG (basal level – 54%), while there are only 37% in CG (basal – 58%). The low level of EG children was up by 10% (basal level - 18% – control level - 28%), while the level of CG children –by 26% (basal level - 16% – control level - 42%). On the whole the indices of EG schoolchildren were much higher than CG children, that, despite the reduction of the general results, indicates the positive dynamics.



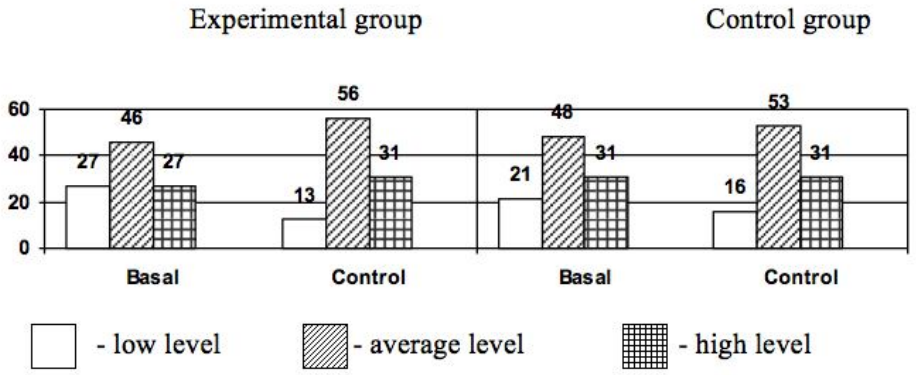
Pic. 2. Comparative data of logical memory of the first-form schoolchildren before and after the experimental work (%)

The study of intellectual development of the first-form schoolchildren by the end of experiment showed significant changes in the results of EG (pic. 3). We noticed the considerable growth of the number of schoolchildren with the high level of QI – from 5% to 13% and with above the average level – from 33% to 37%. The number of schoolchildren in CG with the high level decreased from 20% (basal level) to 17% (control level). Indices of the average and above the average levels did not change (basal - 59% – control - 57%; basal - 21% – control - 21% respectively)



Pic. 3. Comparative data of intellectual level of the first-form schoolchildren before and after the experimental work (%)

The data characterizing the nonverbal intellect of schoolchildren confirmed the positive dynamics of children in EG (pic. 4). The index of the low level of the intellect considerably decreased (basal level - 27% – control level - 13%). This index in CG was not so significant (basal level - 21% – control level - 16%). The same situation was with the index of the average level: by the end of the academic year in EG it went up by about 10 % (basal level - 46% – control level - 56%), in CG – by about 5% (basal level - 48% – control level - 53%). The high level of nonverbal intellect was noticed to increase to 31% in EG (basal – 27%). The dynamics of the high level in CG was not registered (basal level - 31% – control level - 31%).



Pic. 4. Comparative data of nonverbal intellect of the first-form schoolchildren before and after the experimental work (%)

Therefore, according to the results we can say that the indices in CG are lower than in EG. Having remained almost at the same basal level they were little from indices of the experiment. At the same time the significant growth of indices toward the increase of the average and high levels and the decrease of the low level in all the parameters was registered.

The same thing was registered by the method of independent characteristics: parents and teachers of the schoolchildren noticed that the children became quieter and more attentive at the lessons and doing homework at home. Moreover, the final examination of the schoolchild in EG showed the higher level of knowledge than in CG.

Conclusion.

The results of the experimental work registered the development of the intellectual sphere of the first-form schoolchildren of the experimental group and confirmed enough effectiveness of the chosen conditions for solving the problem of the research.

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ВЛИЯНИЕ ТЕХНОГЕННОГО ЗАГРЯЗНЕНИЯ ОКРУЖАЮЩЕЙ СРЕДЫ НА СТАФИЛОКОККОВОЕ БАКТЕРИОНОСИТЕЛЬСТВО И НА МИКРОЭЛЕМЕНТНЫЙ СОСТАВ БИОСУБСТРАТОВ ЧЕЛОВЕКА (НА ПРИЕМЕРЕ Г. ЧУСОВОЙ И П. СЫЛВА)

Аннотация

В статье рассмотрено - влияние техногенного загрязнения окружающей среды на стафилококковое бактерионосительство и на микроэлементный состав биосубстратов 5-6-летних детей, проживающих в городе Чусовом и поселке Сылва.

Ключевые слова: бактерионосительство, загрязнение окружающей среды, магний, никель.

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THE INFLUENCE OF ENVIRONMENTAL TECHNOGENIC POLLUTION ON BACTERIA CARRYING AND MICROELEMENT COMPOSITION OF HUMAN BIOSUBSTRATUM (BY THE EXAMPLE OF THE CITY CHUSOVOI AND VILLAGE SYLVA)

Abstract

The article considers the influence of environmental technogenic pollution on bacteria carrying and microelement composition of 5-6 year old children's biosubstratum living in city Chusovoi and village Sylva.

Keywords: bacteria carrying, pollution of the environment, Manganese, Nickel.

Nowadays anthropogenic pollution of the environment is a real global problem of the modern world. Thus, according to the World Health Organization the state of the environment can make up to 20 percent among the factors which determine the public health. [1].

Air, water and soil pollution of environment, contamination of foodstuff and other objects result in increasing of toxic agents' entrance into the human body. The specific factor of potential toxic elements' influence on human health is the increasing of their content in such biosubstratum as blood and urine. Therefore, it is very important to analyze microelement composition of human biological substratum.

It is established that industrial waste may cause arterial hypertension, ischemia, diseases of cerebral vessels and nervous system disoder. At the same time the influence of technological footprint on staphylococcal bacteria carrying is left beyond researchers' attention, while it is well known that it may be a risk of pyoinflammatory diseases. The problem of staphylococcal bacteria carrying also keep being acute. [4].

The most dangerous for a human being are heavy metals because of their toxic level and wide industrial application. First of all, this problem is extremely relevant in the regions of the Russian Federation which producing manganese and nickel. There is no doubt that the Perm Krai is one of such territories.

Environmental situation in the Perm krai can hardly be called favourable. The main ecological problems of the Perm krai are the following:

1. Air pollution caused by the vehicle missions and other pollutants
2. Water pollution triggered by industrial waste and the high level of local hydrochemical status of iron and manganese compounds
3. Increase of consumption and consumer waste
4. Risks of biological and landscape diversity decrease
5. Insufficient level of environmental culture of the Perm krai population [2].

Two settlements of Perm krai were chosen for the research. The first one is a polluted area –Chusovoy city, the second one is a relatively non-polluted area – Sylva village. These two settlements were chosen according to "Environmental Report of the Perm Kray in 2011 year". Thus maximum contamination of manganese was registered in children's biological medias of Chusovoy city. [3]. Sylva village did not show such results.

The aim of the work is comparing the incidence of staphylococcal bacteria carrying (in the nasal cavity and fauces) and blood microelemental composition (manganese and nickel) of children living in Chusovoy city and Sylva village.