

system (SP ANS). In the main group moderate and prominent tension of SP ANS were detected in 41.7% of girls and the autonomic balance or moderate tension of the parasympathetic centers in the rest of the surveyed. Another important indicator of the ratio of regulatory influences on heart rate is the index of centralization (IC). Significantly increased values of IC were detected in girls from the primary group: 70.5% of them had central mechanisms involved in the management of cardiac rhythm in conditions of functional rest, whereas only 12.9% of girls had that in the control group.

Thus, according to the heart rate variability indexes, we detected that more than 40% of female students at the preparatory faculty for foreign citizens had unsatisfactory adaptation to the changed conditions of life, that was manifested by the predominance of central regulation mechanisms of heart rhythm in relative functional rest and low level of functional reserves of the organism. The most sensitive indicator of functional reserves of the cardiovascular system is an index of centralization.

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#### DETERMINATION OF THE LIMITATION OF VITAL ACTIVITY USING FUNCTIONAL CLASSES IN CHILDREN WITH INFECTION

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Implementation of the International Classification of Functioning, Disability and Health (ICF, 2001), WHO requires detailed development of the application of this classification for HIV / AIDS in children, which will determine the degree of disability, rehabilitation potential and prognosis for this population.

In HIV-infected children at risk of disability, the following disabilities were identified: self-care, orientation, communication, learning, behavioral control, progressing as immunodeficiency increases and are shown in Table.

To solve this problem, we have adapted a methodology for determining functional classes (FCs) in order to establish the degree of disruption of functions, the main categories of vital activity in children with HIV / AIDS [363].

We have developed clinical and expert criteria for the degree of impairment of body functions, limitations on vital functions due to HIV / AIDS, developed functional classes and methods for their use in medical and social expertise in children with HIV / AIDS and in persons at risk of disability. To determine the functional disorders, we took into account the clinical symptoms, the stage of the disease, the degree of immunodeficiency, the viral load, the presence of concomitant diseases, aggravating the course of the underlying disease, complications.

The severity of violations in functional classes in children with HIV / AIDS and the risk of disability has allowed us to distinguish the following grades: FC 1 (0-25%) – mild violations; FC 2 (26-50%) moderate disorders; FC 3 (51-75%) – severe disorders; FC 4 (76-100%) is a significant violation, which was determined according to clinical and laboratory methods of the study.

#### Conclusion

The limitation of certain categories of life activity and disability, as a rule, results in a health disorder predominantly with moderate, severe and marked persistent impairments of body functions (II, III, IV degree). Minor disorders of body functions (I degree) are relatively rare causes of disability and disability.

#### Quantitative assessment of disability in HIV-infected children at risk of disability

Functionality class	Clinical and laboratory characteristics	Limitation of life activity
1	2	3
FC 1 (0-25%)	<ul style="list-style-type: none"> <li>● Asymptomatic flow</li> <li>● Persistent generalized lymphadenopathy (PGL)</li> <li>● Level CD4 – клеток более 25%</li> </ul> Level RNA HIV < 10 000 copies/ml (in children older than 5 years)	Self-service-FC0 Orientation-FC0-1 Communication-FC0-1 Training-FC0-1 Behavior Monitoring -FC0-1 Motor activity-FC0-1

Table continuation		
1	2	3
<p>FC 2 (26-50%)</p>	<ul style="list-style-type: none"> <li>● Moderate disruption of physical development, nutrition for no apparent reason, not responding to standard therapy</li> <li>● Hepatosplenomegaly</li> <li>● Papular pruritic rashes on the skin</li> <li>● Seborrheic dermatitis</li> <li>● Onychomycosis</li> <li>● Angular Cheilitis</li> <li>● Marginal gingivitis</li> <li>● Recurrent ulcers of the oral cavity (2 or more cases within 6 months)</li> <li>● Increased parotid gland</li> <li>● Recurrent or chronic infections of the upper respiratory tract or middle ear</li> <li>● Herpes zoster</li> </ul> <p><u>I</u> Laboratory test data:                      ALT – increase to 3 norms                      γ – globulins – from 8% to 14%                      PCR – detection in the blood DNK VSV, CMVI, candida                      ELISA – specific antibodies of HSV, CMV, candida                      Immunological study – the level of CD4 cells – 20-24%                      HIV RNA level &lt; 20 000 copies / ml (in children over the age of 5 years)  <u>II</u> Ultrasound of the liver – hepatomegaly moderate, moderate diffuse changes in the liver parenchyma, enlarged portal vein.</p>	<p>Self-service-                      FC1-2                      Orientation – FC1-2                      Communication – FC1-2                      Training-FC1-2                      Behavior Monitoring – FC2-3                      Motor activity – FC1-2</p>
<p>FC 3 (51-75%)</p>	<ul style="list-style-type: none"> <li>● Severe impairment of physical development, nutrition, not responding to standard therapy</li> <li>● Unexplained lingering diarrhea (&gt; 14 days)</li> <li>● Unexplained lingering fever (&gt; 1month)</li> <li>● Candidiasis of the oral cavity (in children older than 2 months)</li> <li>● Hairy leukoplakia of the mouth</li> <li>● Pulmonary tuberculosis</li> <li>● Severe recurrent, prolonged bacterial pneumonia (2 or more episodes in 6 months)</li> <li>● Acute necrotizing ulcerative gingivitis / periodontitis</li> <li>● LIP (lymphoid Ipterstic pneumonitis)</li> </ul> <p><u>I</u> Laboratory test data:                      Anemia (&lt; 80g / l), neutropenia (&lt; 1000l / μl) or thrombocytopenia (&lt; 100 000l / μl) for 1 month or more</p> <ul style="list-style-type: none"> <li>● ALAT – increase from 3 to 5 minutes</li> <li>● γ-globulins – from 6% to 8%</li> <li>● PCR – detection in the blood of DNA of HSV, CMV, Toho, candidiasis and other infections</li> <li>● ELISA – specific antibodies of HSV, CMV, Toxo, candida and other infections</li> <li>● level of CD4 cells – 15-19%</li> <li>● HIV RNA levels – more than 20 000 to 55 000 copies / ml (in children over the age of 5 years)</li> </ul> <p><u>II</u> X-ray – upper-left infiltrate, atypical manifestations</p> <ul style="list-style-type: none"> <li>● Radiographically – two-sided low-annual (more often interstitial,</li> <li>● less often reticulonodular) infiltrates (LIP clinic)</li> <li>● Ultrasound of the liver – hepatomegaly expressed, mild fibrosis with portoportal septums.</li> <li>● Sputum boobs – detection of mycobacterium tuberculosis</li> </ul>	<p>Self-service -                      FC2-3                      Orientation – FC2-3                      Motor activity – FC2-3                      Communication – FC2-3                      Education – FC2-3                      Behavior Monitoring – FC2-3</p>

End of table		
1	2	3
FC 4 (76-100%)	Severe depletion or other form of eating disorders, physical development not responding to standard therapy <ul style="list-style-type: none"> <li>● Pneumocystis pneumonia</li> <li>● Recurrent severe, bacterial infections (2 or more episodes per year)</li> <li>● Chronic skin or area around the mouth, caused by HSV (more than 1 month)</li> <li>● Candidiasis of the esophagus, trachea, bronchi or lungs</li> <li>● Disseminated or extrapulmonary tuberculosis</li> <li>● Kaposi's sarcoma</li> <li>● Toxoplasmosis of the central nervous system</li> <li>● Any disseminated endemic mycosis, including cryptococcal meningitis</li> <li>● Cytomegalovirus infection in a child older than a month (outside the liver, spleen and lymph nodes)</li> <li>● Visceral herpes</li> <li>● HIV-encephalopathy</li> </ul> Lymphoma of the central nervous system or B-cell lymphoma <ul style="list-style-type: none"> <li>● Progressive multifocal leukoencephalopathy</li> <li>● Cardiomyopathy due to HIV</li> <li>● Nephropathy due to HIV</li> <li>● Leukemiosarcoma or other HIV-associated solid tumors</li> </ul> I. Laboratory test data: <ul style="list-style-type: none"> <li>● The general analysis of blood – anemia (Hb 70,0 g / l and below), leukocytes &lt;3,0 * 10<sup>9</sup>, lymphopenia</li> <li>● ALAT – increase in excess of 5 norms</li> <li>● <math>\gamma</math>-globulins – from 4% to 6%</li> <li>● PCR – detection in the blood, in cerebrospinal fluid of HSV, CMV, Toxo, candidiasis and other infections</li> <li>● ELISA-specific antibodies of HSV, CMV, Toxo, candida and other infections</li> <li>● Reduction in CD4 count &lt; 15%</li> <li>● HIV RNA levels – more than 55 000 – 100 000 copies / ml (in children over the age of 5 years)</li> </ul> II. Rentgenologically – bilateral reticulonodular infiltrates, more pronounced in the radical zone and extending around the periphery, an abundance of focal shadows – a “cotton” radiograph (PCP clinic) <ul style="list-style-type: none"> <li>● Ultrasound of the liver – fibrosis with portoportal septums.</li> <li>● MRI, CT – foci of meningoencephalitis, demyelination in the hemispheres or in the brain of the posterior cranial fossa</li> </ul>	Self-service - FC3-4 Orientation – FC3-4 Communication – FC3-4 Training – FC3-4 Behavior Monitoring – FC3-4

Expert diagnosis in the examination of children with HIV / AIDS, including the identification of a set of functional indicators (Table), on the basis of which the degree of impairment of functions, the main categories of life activity is established, reveals the level of rehabilitation opportunities, and the need for various types of medical and social rehabilitation allowed differentiating rehabilitation the activities of patients with HIV infection and improve their quality of life.

Out of 17 HIV-infected children, one patient is not included in the FC. In 2 (11.7%) children,

moderate clinical and functional disorders (FC-2), marked clinical and functional disorders (FC-3) in 15 (88.3%) were revealed. All patients had indications for disability registration.

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