Purpose The aim of the present study was to evaluate the determinants of gas exchange in smoking and nonsmoking teenagers during an incremental exercise test.

Materials and Methods One hundred and fifty healthy Bulgarian school children in the age span 15 – 17 years took part in the study. All participants completed anthropometric measurements – standing height, weight and BMI and a questionnaire about smoking habits. The studied group performed an incremental exercise test on a treadmill following a modified Balke protocol.

Results Near 90% of participating teenagers completed the exercise test to the end. Boys showed significantly higher values of oxygen consumption on different levels of the test and maximal oxygen consumption - VO_2 peak $\text{mL}\cdot\text{min}^{-1} = 2287 \pm 337$ vs. 1702 ± 278 ; $p < 0.001$. In the studied population, smokers had slightly lower values without a significant difference - VO_2 peak $\text{mL}\cdot\text{min}^{-1} = 1777 \pm 288$ vs. 1851 ± 417 ; NS. VO_2 increases with age and correlated best with weight ($R=0.83$) and height ($R=0.65$) but less with BMI ($R=0.59$). Ventilatory equivalents for O_2 and CO_2 (V_E/VO_2 , V_E/VCO_2) decline with age. Girls in comparison with the boys had greater fatigue perception (Borg scale) during the incremental test.

Conclusions The anthropometric parameters were the best determinants of physical capacity in teenagers. Smokers showed slightly lower but not significant values for VO_2 peak. Boys had significantly higher values for VO_2 peak compared with girls.

P24

THE MAIN VIOLATIONS OF THE FUNCTIONS IN THE STATE OF HEALTH OF CHILDREN WITH DISABILITIES IN THE CITY CHILDREN'S POLYCLINIC

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Indicators of major impairments in the health status of children with disabilities are used as a daily statistical tool for objectifying the process of rehabilitating patients and identifying the strengths and facilities of a medical institution for the successful implementation of an individual program of rehabilitation/habilitation of a disabled person.

The analysis of the main violations of functions in the state of 1611 disabled children of the State Budget Agency of Health of Republic of Komi 'Syktyvkar children's clinic' ³ was conducted on the basis of medical documentation in 2011–2018.

Seven major violations of functions in the state of health of children with disabilities were identified: 1) Mental, of which perception, attention, memory, thinking, intelligence, consciousness, behavior, psychomotor functions, and other functions; 2) Language and speech, of which speech disorders (rhinolalia, dysarthria, alalia, aphasia), writing disorders (dysgraphia, dyslexia), disorders of verbal and non-verbal speech, voice disorders, and other violations of language and speech functions; 3) Sensory, of which sight, hearing, smell, touch, tactile, pain, temperature and other types of sensitivity; 4)

Statodynamic, including violations of the motor functions of the head, motor functions of the body, motor functions of the limbs, statics, coordination of movements; 5) Organs and systems, including blood circulation, respiration, digestion, excretion, blood formation, metabolism and energy, internal secretion, immunity; 6) Violations caused by physical deformity, of which lead to external deformity (deformation of the face, head, torso, limbs), abnormal digestive, urinary, respiratory tracts, violation of body size; 7) General and generalized.

The number of disabled children in the city children's clinic in 2011–2018 increased in absolute terms by 95 people with a growth rate of 157.23%; the incidence of patients with disabilities increased 1.34 times to 159.92 per 10,000 contingent of children and adolescents.

According to the specific weight, among the main disorders in the state of children's health were: statodynamic - 35.34 $\pm 3.11\%$ over the pathology of organs and systems 28.47 $\pm 2.93\%$, mental 16.62 $\pm 2.41\%$, sensory 13.10 $\pm 2.19\%$, language and speech 5.49 $\pm 1.48\%$ (all $p < 0.001$), general and generalized 0.56 $\pm 0.49\%$, $t=1.143$ and disorders due to physical deformities 0.42 $\pm 0.42\%$, $t=1,000$.

With a total disability rate of 159.92 per 10,000 patient populations, it was divided between 7 main disorders of the body's functions: static-dynamic - 55.76; organs and systems - 43.50; psychic - 34.31; sensory - 16.54; language and speech - 8.58; general and generalized - 0.61 and disorders due to physical deformities - 0.61 per 10,000 patients.

P25

IMPLEMENTATION OF PREDICTION OF SOCIAL RISK OF ISCHEMIC STROKE ON CHILDREN'S POPULATION OF UKRAINE

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Introduction Acute ischemic stroke is one of the most often causes of disability and death worldwide. Unfortunately it is widespread even among young patients - prevalence of stroke among children reaches from 2 to 6 per 100,000 children. The number of etiological factors that may lead to stroke in children is very high, but social factors are making significant contribution to the occurrence of stroke.

Objective Our objective is to study the spectrum of social risk factors, their impact on the incidence of cerebral ischemic stroke and possible correlation with social risk factors in children's population of Ukraine.

Materials and methods We have examined 140 grown-up patients with ischemic stroke (average age - 65,2 $\pm 8,7$ years) using clinical and instrumental methods, laboratory examination and detailed clinical and anamnestic survey. 45 young patients with stroke (average age - 9,3 $\pm 3,8$ years) were included retrospectively in research for comparison of social risk factors of stroke.

Results Among known social predictors of development of cerebral ischemia we discover 7 risk factors (sleep disturbance, excessive stress, abnormal nocturnal activity, long-term work with monitors, reduced physical activity, irregular meals, severe smoke and alcohol addiction) with higher incidence and use them to evaluate risk of possible cerebral stroke with help of specialized social risk of stroke scale.

Occurrence of social predictors of ischemic stroke (%)

Social factors	Groups of patients	
	A1 (n=140) %	A2 (n=45) %
Sleep disturbance	100	24,4
Excessive stress	100	31,1
Abnormal night activity	100	11,1
Long-term work with monitors	87,9	35,5
Physical inactivity	85,8	11,1
Meal problems	75,00	24,4
Alcohol, smoking	70,00	6,6

We have discovered that percentage of incidence of stroke predictors has demonstrated significant difference between grown-ups and young patients. But also we have to admit that such factors as sleep disturbance (24,4%), excessive stress (31,1%), long-term work with monitors (35,5%) and irregular and unhealthy meals (24,4%) were surprisingly high among children patients.

Conclusions This fact allows us to make a conclusion that some social risk factors have similar tendention to summon strike symptoms without any connection to age of patient. All this testify to the fact that early prevention of this factors is essential for protection of children from ischemic stroke.

P26

ASSESSMENT OF THE QUALITY OF PASSAGE AND THE LEVEL OF SATISFACTION WITH THE RECEIPT OF THE STATE SERVICE OF PASSING MEDICAL AND SOCIAL EXPERTISE (SSMSE) TO CHILDREN AND ADOLESCENTS

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The quality control of provision of SSMSE by patients is objective indicator of the work of expert service.

An analysis of 566 directions for passage of SSMSE by medical organization, filed by official representatives of children, patients registered in 2016–2018.

Independent assessment of quality of conditions of service provision by federal agencies; SSMSE provides for assessment of conditions of service provision on such common criteria as openness and availability of information about institution; comfortable conditions for provision of services, including the waiting time for its provision; goodwill, courtesy of employees of institution; satisfaction with conditions of service, as well as the availability of services for people with disabilities.

The time of provision of SSMSE $50.00 \pm 7.37\%$ ($p < 0.001$) was rated by patients as 'Excellent', $43.47 \pm 7.31\%$ ($p < 0.001$) - 'Good. The stated dates are fully satisfied and respected' and only $6.53 \pm 3.64\%$ ($t = 1.794$) - 'Normal. The stated deadlines are respected, but could be a bit shorter.'

Waiting time in queue when receiving SSMSE $54.35 \pm 7.34\%$ ($p < 0.001$) - 'Excellent'; $26.09 \pm 6.47\%$ ($p < 0.001$) - 'Good. I never stood in lines for whole time of applying for service'; a $17.39 \pm 5.59\%$ ($p < 0.001$) - 'Normal. We had to stand in small queue once for the whole time of applying for the service', and only $2.17 \pm 2.15\%$ ($t = 1.009$) indicated 'Bad. I had to stand in a big queue once' (1 person).

The exact waiting time in queue when receiving SSMSE (in minutes) was 6.41 ± 2.51 minutes (in pilot study, 21.00 ± 4.10 minutes).

The politeness and competence of employee who interacts with applicant in provision of SSMSE is rated as 'Excellent' $71.74 \pm 6.64\%$ ($p < 0.001$) by respondents; 'Good. The staff were very polite and showed a high level of competence' - $26.09 \pm 6.47\%$ ($p < 0.001$) and 'Normal. The staff were quite polite and competent' - $2.17 \pm 2.15\%$ ($t = 1.009$).

The comfort of conditions in room where SSMSE was provided among the respondents was noted as 'Excellent' - $56.52 \pm 7.31\%$ ($p < 0.001$) of official representatives of examined children; 'Good. The level of comfort in the room is fully satisfied' - $39.13 \pm 7.20\%$ ($p < 0.001$) and 'Normal. In general, comfortable, but there are minor remarks' - $4.35 \pm 3.01\%$ ($t = 1.445$).

The availability of information on procedure for submitting SSMSE was evaluated in questionnaires as 'Excellent' - $56.52 \pm 7.31\%$ ($p < 0.001$) of respondents; 'Good. Received information quickly and in full' - $39.13 \pm 7.20\%$ ($p < 0.001$) and 'Normal. Received information in full, but I had to spend more time searching for it than I wanted' - $4.35 \pm 3.01\%$ ($t = 1.445$).

P27

REDUCING THE INFLAMMATORY POTENTIAL OF THE RESPIRATORY TRACT IN CHILDREN WITH HERBAL MEDICINE

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Background and aims A study on the effect of the phyto-immunomodulator BNO 1030 (Bionorica SE, Germany) on the frequency of acute respiratory infections (ARI) in 128 children aged 3 to 14 years.

Methods Determining the level of expression of the transcription factor NF- κ B in peripheral blood lymphocytes by flow cytometry.

Results After the BNO 1030 therapy lasted for 4 weeks, a significant decrease in ARI multiplicity by 1.7 times, a modest shortening of the duration of follow-up ARI (1.4 days on average) was observed over the next 12 months, and the incidence of mild cases of ARI was increased (from 57% to 75%) decreased the number of antibiotic prescriptions (from 3.4 ± 0.4 to 1.6 ± 0.2 times). After therapy with BNO 1030, there was a decrease in the activity of the transcription factor NF- κ B from 44.4 ± 2.4 units to 32.4 ± 3.1 units ($t = 3.06$; $p = 0.002$).

Conclusions The BNO 1030 has a significant prophylactic effect, preventing the onset of ARI in children. This clinical effect is associated with inhibition of the pro-inflammatory potency of the child's body.