Сангвиник	Меланхолик
▨ левополушарные	▨ левополушарные
▤ правополушарные	▤ правополушарные
▨ биполушарные	▨ биполушарные

Рисунок 1 — Соотношение психической асимметрии мозга типу высшей нервной деятельности

При этом, при анализе полученных данных было определено: для 62% правополушарных характерен тип темперамента сангвиник, для остальных 38% — меланхолик; для 89 % левополушарных характерен тип темперамента сангвиник, для 18 % — меланхолик; для 67 % биполушарных людей характерен тип темперамента сангвиник, для 17 % — флегматик, для 8 % — холерик и для 8 % — меланхолик.

Выводы

По результатам проведённого исследования, только для двух типов высшей нервной деятельности в большей степени развито конкретное доминирование какого-либо полушария, для сангвиников — левое полушарие (46 %), а для меланхоликов — правое полушарие (60 %). В свою очередь, у тестируемых флегматиков и холериков, в основном проявляется биполушарная активность.

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RESEARCHING OF THE EXTERNAL RESPIRATION PARAMETERS IN FOREIGN STUDENTS

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Introduction

Students from different regions of Belarus, as well as foreign students from India, are studying at the Gomel State Medical University. In their organism, func-

tional changes occur adequate for specific conditions or physiological adaptation. The respiratory system was used as an indicator of adaptive activity, as a system actively participated in all manifestations of the body's vital activity [1].

Respiratory disturbances detected during spirometry are the only significant criteria for chronic obstructive pulmonary diseases [3]. In connection with the foregoing, the study of the function of external respiration in foreign students is of particular interest.

Aim
To study the parameters of the respiratory system of Indian students in comparison with Belarusian students of Gomel State Medical University.

Material and methods of research
Measurements of the functional parameters of the respiratory system were carried out in students of the 2nd year of study in the period from November to December. Two groups of students of two nationalities were formed (each group of students included 15 guys of the same height and age). The study involved students who had no complaints, chronic diseases on the day of the examination.

In our work, the state of external respiration was evaluated by the following methods:

1. Online survey. The questionnaire consisted of 20 questions relating to factors affecting the body's adaptation to the environment: mental factors, physical activity, lifestyle, bad habits, ecology.

2. External respiration was evaluated by spirometry — is a method of studying the functions of external respiration, which includes measuring capacities and volumes.

3. Determination of the duration of the maximum breath holding at inhalation and exhalation (Stange and Genchi test).

Statistical processing of the research results was carried out using the statistical software package «Statistica» 10. The distribution was checked for normality by the Shapiro — Wilk test. In the case of a normal distribution of variables, parametric methods were used to independent samples (t-student), with abnormal — nonparametric method (Mann — Whitney). The results of parametric data processing methods were presented in the form of mean (M) and average error (m), nonparametric — median (Md), first (Q1) and third (Q3) quartiles. For all the results, the differences were considered significant at a level of $p < 0.05$.

The results of the research and their discussion
Table analysis 1 allowed to detect a number of patterns. From the questionnaires it is clearly seen that a significant impact on the adaptation of students has a lifestyle (45 and 52 %), accordingly, other factors are less.

Table 1 — Spirometry and breath holding results

№	Country	External respiration parameters				RR, breaths per min	RMV, 1 per min	Stange (sec)	Genchi (sec)
		VCL, 1	TV, 1	ERV, 1	IRV, 1				
1	Belarus	3 ± 0,04	0,6 ± 0,024	1,1 ± 0,034	1,4 ± 0,03	12 ±1,75	9 ± 0,02	54 ± 0,75	41 ± 0,03
2	India	3 ± 0,03	0,7 ± 0,406	1,0 ± 0,012	1,5 ± 0,05	18 ±1,15	14 ± 0,05	35 ± 1,15	28 ± 0,05

The obtained results of spirometric studies in healthy students from Belarus and India showed the following: all examined students have respiratory volumes and capacities within the normal range. In a comparative aspect, the value of the respiratory minute volume end respiration rate is higher in Indian students than Belarusian students. Duration of breath-holding on inhalation and exhalation is less for students from India than for Belarusian students. For all the results, the differences were considered significant at a level of $p < 0.05$.

Conclusion

In our opinion, an increase in the parameters of external respiration in healthy students from India is explained by the fact that in the process of adaptation there are functional transformation at adapting the respiratory system to changing environmental conditions. Thus, an accretion VCL, RR, RMV increase the respiratory surface of the lungs and there by create conditions for more effective adaptation of pulmonary ventilation to satisfy the metabolic needs of the body. It can be assumed that compensatory-adaptive reactions are directed at increasing of the external respiration parameters. However, the short duration of breath holding at inhalation and exhalation in students from India is associated with incomplete adaptation to the natural and social conditions of life.

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COMPARATIVE CHARACTERISTICS OF ANTHROPOMETRIC INDICATORS OF PUPILS OF THE REPUBLIC OF BELARUS AND THE COUNTRIES OF SOUTH ASIA

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Introduction

At the present stage of human development, the ecological situation is characterized by an increase in anthropogenic load, which causes the tension of adaptation mechanisms and disrupts the homeostasis of the organism. In this regard, an urgent direction of biomedical research is the study of the dependence of the indicators of physical development of schoolchildren on environmental factors and socio-economic living conditions [3].

Aim

The goal is to conduct a comparative analysis of the anthropometric indicators of schoolchildren in the age range from 7 to 17 years old, living in the Republic of Belarus and the countries of South Asia.

Material and methods of research

The object of the study was 3450 students of secondary schools in Gomel, aged from 7 to 17 years old, examined by the staff of the Department of Normal Physiology in 2010–2012. (First group). The anthropometric research program included the following indicators: body length (BL), body weight (BW), chest circumference (CC).

The variability of the growth rate of anthropometric indicators in the interval of 7–17 years was traced by analyzing their absolute and relative annual increases. Relative gains are calculated as a percentage of the total gain for the entire studied age period. To establish the timing of the intensification and relative deceleration of the growth of anthropometric characteristics, we compared the indicators of schoolchildren of adjacent age groups for each sex separately.

In order to study the regional characteristics of somatometric indices, the data obtained were compared with the corresponding literature data obtained in a survey of 2710 schoolchildren in the Republic of India and Sri Lanka (second group) [2].