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## **SOME PHYSIOLOGICAL STATUS PECULIARITIES BY LITERARY AND OWN DATA**

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**Introduction.** Heart-vascular system autonomic regulation attracts the scientists attention from different points of view for example concerning to heart rate variability biofeedback with 24-hour Holter monitoring [1]; moderate-intensity aerobic exercise improving action to the cardiac neuroresponsibility while applying the poicare's geometric method [2], in part in the aqueous environment with the same positive effect and with the same poicare method only the plot nonlinear one [3]; medical and non-medical interventions to reduce increased blood pressure or to prevent its increase for example due to rhythmic breath holding during which carbon dioxide gets accumulated in blood dilating blood vessels with further diminishing in arterial pressure while widening the data concerning to heart-vascular and respiratory systems conjugated reflexes [4]; vitamin B12 and its deficiency influence on autonomic nervous system condition in infants [5] with parallel maternal nutrition impact on this system [6], autonomic dysfunction and hemodynamics at B12-deficiency [7]; heart rate variability, its circadian variations and its modifying factors in the children with type I diabetes mellitus [8]; autonomic nervous system responses to whole-body vibration and mental work load with vibration stimulating effect both onto sympathetic and parasympathetic nervous system, sympathetic nervous system more significant influence under mental work load action and with both factors imbalancing action to sympathetico-vagal control [9]; sympathetic nervous system enforced function relatively to heart rate variability at Holy Quran reading and

listening as a result of positive emotions [10]; parasympathetic reactivation after upper body exercise was observed [11].

Heart auscultation belongs to rather simple and very informative diagnostic method in fetuses during maternal pregnancy, adults and children with heart vices (while being informative in both age groups) [12]. Heart auscultation new methods are proposed and get involved in the medical students teaching practice taking heart pathology big specific weight into consideration in part the one of heart vices [13].

Respiratory system pathology is distributed and respiratory system gets altered at other systems' diseases and syndromes while causing rehabilitation sometimes: insulin-dependent diabetes mellitus, insulin-independent diabetes mellitus [14; 15; 16; 17; 18; 19], there exists a term "diabetic lung" as a new target organ [20]; low back pain [21] with breathing exercises helping effect when pain was felt only during getting up after the 3<sup>rd</sup> session (diaphragmal breathing in a combination with stretching exercises) [22]. Many research works were devoted to respiratory system state in preterm infants when proposed the correcting methods [23]. Diagnostic methods for respiratory system functions assessment are checked and introduced in Medicine: fiberoptic bronchoscopy in neonates [24], capnography (for CO<sub>2</sub> level determining) [25], pulse oximetry [26]. As a whole there exist interpretative strategies for lung function tests. Vital capacity is considered to be predictor of incident type 2 diabetes mellitus. There are questionnaires' versions on separate diseases in part concerning to asthma in various countries for example in Iran [27].

**Our own research.** We perform classical probes on nervous, heart-vascular and respiratory system condition assessment in the foreign students [28; 29]. The investigative object was the students of International faculty from various countries studying Medicine and Dentistry, mainly the 2<sup>nd</sup>-coursed when they had Physiology.

Modern foreign students in our educational establishment are distinguished more in more by vegetative-vascular dystony (dys-function by another nomenclature) which symptoms were expressed as:

- 1) mosaic character or profile of the students' autonomic reactions when one indices group was undergone to vagal influencings in bigger extent while another group – to the sympathetic ones; that did not allow to make one-digit conclusion about vagotony or sympatheticotony;
- 2) pressor character of classic depressor reflexes (Chermak's, ocular-cardiac or Dagnini-Ashner's) which performance resulted not in arterial pressure lowering and pulse retardation (bradysphygmy) but in increasing the arterial pressure and pulse acceleration (tachysphygmy);
- 3) heart rate variability;
- 4) tendency to have so-called hard pulse;
- 5) diminished duration of vital lungs capacity, Shtange's and Hench's respiratory probes;
- 6) weakening or paradoxal character of Miuller's and Walsawa's conjugated reflexes between heart-vascular and respiratory systems (paradoxal phenomenon was expressed in the fact that there was bradysphygmy at Miuller's test and tachysphygmy at Walsawa's test though it must be on the contrary because oxygen narrowing blood vessel leads to vasoconstriction and arterial

pressure rising as a result while carbon dioxide dilating them results in vasodilation and arterial pressure decrease as a result;

- 7) very weak first heart tone at very loud second and on the contrary, very weak one tone in one auscultation point and very loud – in another one, very weak aortal valve auscultation and even weaker or absent pulmonary and on the contrary.

Other results received by us concerning to physiological systems functioning peculiarities in foreign students from different countries studying in our educational establishment were as follows as:

- 1) tendency to less time of blinking reflex development;
- 2) tendency to cerebellar tests worse performance;
- 3) big variety in superficial and deep sensitivity assessing picture;
- 4) spinal reflexes atypical checking points bigger appearance in part knee-jerk receptive field widening.

We consider that changing the climatic conditions, habitual life regimen, additional educational and other loading can influence on foreign students' physiological systems functioning peculiarities. The academic groups' responsible teachers (curators), other teachers working in these groups, representatives from the countries where the students are from must pay big attention to care for the students' health, inform the dean-office stuff/doctors or/and family members/other teachers if there are complaints about health problems from the students' side. The dean-office stuff should inform the family members. Of course, life conditions and daily life peculiarities should be taken into account, there must be maximal help from mentioned people to foreign students to maintain the education applicants' best health conditions. Individual approach to every student should be the principle in priority.

We have a hope that the results received by us have not only theoretical but applied significance.

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