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TO THE QUESTION CONCERNING TO MODERN EDUCATION SOME PRINCIPLES AND PECULIARITIES

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The term “education” has a Latin origin with a meaning “to raise”, “to grow up”. The teacher should create so called nourishing environment to his/her students while being able to see the discovery in his/her educative and scientific potential in the biggest possible extent. Academic adaptation should reach its maximal possible level that is impossible without following the inclusive education based on its reflective character and humanism. The education reflective character in turn is impossible to be achieved without the teaching maximal individualization while the applicants’ typological belonging taking into obligatory consideration. Ethnic, ethno-age and ethno-gender-age typological aspects are seen if to take into account that every country or separate educational establishments in it possesses teaching own programs, principles, students represent a separate age category as well as that male and female students can be examined while having their own psycho-physiological distinguishing features, while analyzing their preferences between various educational forms and methods. COVID-19 pandemy created essential conditions to use remote education widely and researches of the scientists were dedicated to it in a various countries: in India [1], Greece [2], Saudi Arabia [3] with ethno-gender-age aspect particularly. But at the same time, there must exist common, unified principles of education.

Being a student and a tutor in the dental academic groups has expressed peculiarities because our educational establishment works with a principle of early professiogenesis, starting with the 2nd year of study for the students. Physiology is

learned and is taught at the 2nd course as well. The students of both medical and dental profile are given the materials to provide as much more significant intra- and interdisciplinary integration as possible to reach maximal understanding the data, uniting the ones characterizing organism functioning at micro-, meso- and macrolevels of alive matter organization, theory and clinics for knowledge good survival, backgrounding the preventive and treaty methods further. Physiology gives such knowledge complex giving an opportunity to differentiate normal and pathological indices, id est to perform a diagnostics. Modern stage of physiological science development is characterized by strivings to teach not only theoretical but applied, Medical Physiology, Clinical Physiology that creates an essentiality of professional preparing of the teachers and maximal using the inter-disciplinary integration. The students have the 1st getting acquaintance with diagnostic methods at Physiology chair. One can mention chronaxymetry, electromyography (EMG, in part of the masticatory muscles for dental students), electroodontodiagnostics (EOD, for dental students), masticacyography (for dental students), gnathodynamometry (for dental faculty students), rheodontography (for future dentists), rheoparodontography (for stomatological faculty students). Every student should manage total blood, coagulogram, electrocardiography (ECG), phonocardiography (PhCG), the heart tones auscultation, pulse features palpatory diagnostics, sphygmography (SpPhG), electroencephalography (EEG), rheoencephalography (REG), rheovasography, spirography, pletysmography, the stomach and the duodenal zonding bases, pH-metry, total urine. These methods are widely used in many countries while being rather informative.

It is very important that every lesson starts from discussing the topic studied actuality to enforce the students' motivation to gain knowledge. Profile stomatological questions are discussed at every lesson of Physiology. Not only Dental Physiology (the maxillary-facial area physiology) [4] but Physiological Dentistry dealing to the questions which are between theory and clinics and can remain without due attention often unfortunately because the teachers at the clinical dental chairs think about their discussion in Physiology course and don't pay due attention or don't discuss them at all. Contrary situation can be observed as well when physiologists consider these "profile questions" as the ones belonging only to applied Dentistry.

Tooth decay must be described as the complex pathological condition which development depends greatly on saliva pH, hormonal status (insulin-dependent diabetes mellitus accompanied by hypo- and even asalivation creates conditions for salivary normal pH as 5,8-7,4 shift to acidosis; hypoxo hardens acidosis; hypoxo results into anaerobic glycolysis but not aerobic with lactate- and pyruvate acidosis; ketoacidosis develops and one should remember that ketonic bodies represent the most acid compounds in the human organism and their concentration gets increased in 10-50 times at this disease; cariesogenic microbiota decomposes sugars with aldehydes and other acids formation; acid products destroy enamel with cavities formation; hypo-asalivation results into weak specific and non-specific protective mechanism which could help against pathogenic oral microflora, in part, the cariesogenic one; saliva possesses buffer functions, and its decreased quantity or absence at all create a

predisposition to multiple caries or decay development that must be paid significant attention while teaching blood physical-chemical properties, the endocrine system and the maxilla-facial area physiology); histologists, physiologists, pathophysiologists, hygienists (consumption of carbohydrates which do not cause caries development), biochemists, microbiologists (while discussing the topic about oral microflora normal and pathogenic representatives), immunologists, endocrinologists, dentists should create a complete picture of this disease in the students. Thus, we see that multidisciplinary integration, both the inter-disciplinary and intra-disciplinary one, is so much important in the educative process of a Real Doctor. We think that this material must be managed not only by dental but medical students rather well also because of not only maxillary-facial area but other systems involvement in this pathological process development for being able to help the dentists to diagnose (for example, while paying attention to the patient's habit to eat refined carbohydrates much in sweets, to smoke because smoking hardens organism defense against microorganisms, seeing multiple formation of the cavities during the oral cavity examination with rapid directing to the dentist) because the tooth decay and concomitant problems are rather distributed nowadays unfortunately. The Turkish scientists contributed much in the decay etiopathogenetic factors study, there is even the department of Cariology in Turku Immunology Center [5].

It is known that vascular-platelet and coagulational hemostasis disturbances take the leading position in the morbidity structure by WHO. It is also known that the maxillary-facial area and the oral cavity participate in platelets pro- and antiaggregation, express pro- and anticoagulation and the dentists should help the patients suffering from coagulopathies with their professional help; it requires very good knowledge of general regularities of hemostasis in its wide aspect [6] with encouraging and inhibiting links taking into consideration, the maxillary-facial area and the oral cavity role in them [7] as well as backgrounding the physiological mechanisms of proper hemostasis maintaining during dental manipulations [8]. Physiologists at PMSU Physiology chair paid and pay significant attention to these questions at their lessons as well as when teaching the topics about vascular-platelet hemostasis, coagulational hemostasis, anticoagulants, fibrinolysis and DIC-syndrome (disseminated intravascular coagulation syndrome) [9], the maxillary-facial area physiology (while differentiating its non-specific functions other than the oral cavity participation in food digestion). The tutors paid and pay also an attention to the fact that there exists one big defensive system [10; 11; 12] and its many links – non-specific and specific cellular and humoral mechanisms, pro- and antiaggregants, pro- and anticoagulants, fibrinolysis activators and inhibitors, primary and secondary anticoagulants, enzymatic and non-enzymatic antioxidants, formed elements and endothelium negative charge under intact conditions – in a whole organism and maxillary-facial area particularly.

Thus, modern education contributive principles are as follows as:

1) inclusive character based on humanism and reflectiveness, id est education maximal individualization;

2) early profессиogenesis with theory and practice uniting beginning from the 2nd course to the dental students;

3) attention to the topics studies actuality, to representation about the organism as a highly-integrated and properly-regulated system at all levels of alive materials organization and one big defensive system and its separate links.

All of the mentioned was and is performed at PSMU Physiology chair and it encourages to the applicants' better knowledge maintaining.

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