## ORGANIZATION OF THE EDUCATIONAL PROCESS USING THE INTERMEDIARY LANGUAGE (ENGLISH) AT THE DEPARTMENT OF PATHOLOGICAL ANATOMY

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The Bashkir State Medical University serves as a forge for the training of medical personnel providing qualified medical care to the population of the Republic of Bashkortostan and the Russian Federation. School teachers, purposeful career guidance work of BSMU play a significant role in choosing a doctor's profession. Students from Near and Far abroad (from 54 countries in total) also receive higher medical education at the university. The long-term creative activity of the teaching staff of the University has gained great authority and trust from the health care organizers of these countries. Our university provides an opportunity to study using an intermediary language (English). In the first three years, the training is organized in English with the parallel development of the Russian language by students. In the future, students master medical disciplines in Russian.

The educational process using the intermediary language (English) at the Department of Pathological Anatomy of the BSMU of the Ministry of Health of the Russian Federation takes place among students of the II-III courses in the specialties "General Medicine" and "Dentistry". The study of the discipline "Pathological anatomy" in the specialty "Dentistry", in accordance with the curriculum, is provided for two semesters, and the discipline "Pathological anatomy, clinical pathological anatomy" in the specialty "General Medicine" - for three semesters. At the same time, in the specialty "General Medicine", the study of the discipline in the third year takes place using an intermediary language (English), and in the fourth year - in Russian. This is due to the peculiarities of the educational process for foreign students at our university. The educational process includes contact (lectures, practical classes) and extracurricular, independent work. Independent work involves the study of educational topics not included in the lecture course and practical lessons.

Students study general pathological processes at the initial stage. These include – dystrophy, necrosis, circulatory disorders, inflammation, adaptation and compensation processes, neoplasia. The private course originates from the development of diseases of the blood and lymphatic system. At the same time, the educational process includes coverage of etiology, morphogenesis, pathogenesis, macro-microscopic manifestations of diseases, outcome, complications and causes of death. When studying a private course, considerable attention is paid to morphogenesis, since the latter is the basis of the pathogenesis of certain diseases. The issues of therapeutic pathomorphosis are considered in detail, which is due to diverse drug therapy in the clinic, often self-medication in conditions of broad medical information.

During the practical lesson, the teacher carries out step-by-step work with the participation of students. The control of the material development by students takes place in several stages – current, entrance and intermediate. The regulation on the ongoing monitoring of academic performance and intermediate certification of students in the BSMU of the Ministry of Health of the Russian Federation, reflected in Application No. 7 to the order of the BSMU of the Ministry of Health of the Russian Federation dated 04.12.2018 No. 209, provides for the performance of test tasks. Students perform test tasks at the beginning of a practical lesson in a computer classroom. The computer program was developed earlier. The analysis of the material is carried out in the form of a survey, interview or analysis of thematic reports. Unsatisfactory mark is associated with the student's unpreparedness for the lesson. A satisfactory mark follows if the student has a general idea of the pathological process, but cannot explain it in detail; a good one – when explaining the essence of the process, its macro-, microscopic manifestations, probable complications, but with minor inaccuracies or shortcomings. An excellent mark is given when a student has deep knowledge, the ability to describe in detail the

morphological picture, complications and outcomes of the process and to give a clinical interpretation of the case. In practical lessons, they actively use the possibilities of the department's museum with typical and rare exhibits of macro-preparations. The teacher demonstrates the characteristic changes of the organ (organs) in certain pathological processes. As a result, students visually assess the changes that have occurred, determine the clinical significance of the pathological process. After the stage of test control and analysis of the topic, students begin to study micro-preparations at the light-optical level in conditions of small and large magnifications. This is followed by a draw of the detected changes in the album with the appropriate designations. Under the quality of the sketch, they do not mean an "artistic" value, but the reflected essence of the process, how reliably it was possible to convey the characteristic microscopic signs of pathological changes. The absence of drawings and sings in the album of the studied micro-preparations, not an indication of morphological features or an explanation of changes in the organ, means that this section of the practical lesson is not developed and it is subject to working out during extracurricular time. The evaluation criteria are the student's ability to describe micro-preparations and the qualitative side of the drawings of micro-preparations with sings. Thus, for one practical lesson, the student receives 3 marks, which are entered in the journal of practical classes. They are directly related to the solution of the test task, the results of the analysis of the topic, the qualitative side of the drawing of micro-preparations.

The entrance control (control and diagnostic lesson) of mastering the material consists of test tasks, interviews, and the reception of practical skills. Students who do not have academic debt on the topics covered are allowed to take control and diagnostic classes. Knowledge of practical material is evaluated based on the results of the response to macro-preparations, micro-preparations according to a certain algorithm and solving a situational problem. The student's work with macropreparations is conditioned by the need to reproduce a holistic picture of the pathological process, which forms the basis of entrance control. Theoretical knowledge is evaluated during the interview, however, when evaluating, it is taken into account how fully the student was able to reveal the essence of the pathological process during the response to the situational task, the description of micro-, macro-preparations. The marks received by students in practical and control-diagnostic lessons are taken into account when compiling semester and yearly ratings. We have recognized the priority grades obtained during the control and diagnostic lessons (their share in the calculation of the rating is 75%). The latter is necessary to motivate the student to timely and high-quality fulfillment of the conditions of control and diagnostic lessons.

Intermediate control of the assessment of acquired knowledge, skills and competencies also takes place in stages. Initially, students are tested in a computer classroom, then choose an exam ticket, receive 2 micro-preparations and a situational task. When selecting examination micro–preparations, the following criteria are taken into account - the pathological process must have a heterogeneous etiology and localization. For example, adenocarcinoma of the colon + bronchopneumonia, lymph node in Hodgkin's disease + "nutmeg" liver. According to the same principle, for the most complete determination of the degree of mastering the discipline by students, the questions in the examination ticket are selected.

Thus, the methodology of teaching the discipline remains complex, unified, including the analysis of the topic, the development of characteristic morphological changes, the drawings and designation of microscopic signs of the pathological process in organ in certain diseases. The use of an intermediary language (English) in teaching general and private courses of pathological anatomy presupposes knowledge of the English language on the part of the teaching staff, the availability of educational and methodological materials on the subject in the intermediary language in sufficient quantity. At the department's meetings, the issues of optimizing the educational process were systematically considered, the unsatisfactory knowledge of students in control and diagnostic lessons and exams for the effectiveness of educational activity indicators is analyzed. With an integrated approach to the educational process, the foundations of clinical thinking are laid, the professional competencies of the future specialist are consolidated, including those of students from foreign countries.

Keywords: pathological anatomy, teaching, teaching methods

## TEACHING METHODOLOGY AT MEDICAL SCHOOL: WHY KNOWLEDGE OF IRON METABOLISM IN HEALTHY CHILDREN AND ADOLESCENTS IS IMPORTANT INTERNATIONALLY

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**Resume.** According to the World Health Organization (WHO), iron deficiency (J) is a common condition internationally, it affects more than 3 billion people on the Earth. At medical schools we teach that it can manifest as iron deficiency anemia (IDA) in children (especially the first two years of life) and in women of reproductive age. According to S. Osendarp et al., in the world about 50% of preschool children and pregnant women have anemia. According to studies by D. Subramanian et al., 9% of children in their first two years of life have IDA. That's why teaching this subject to students and invite them to do research is important worldwide.

Key words: teaching, metabolism, adolescence, anemia.

**Introduction.** Iron deficiency conditions (IDC) remain one of the most urgent health problems around the world due to their widespread prevalence, especially among infants, adolescents, menstruating women, who are high-risk groups for the development of iron deficiency (ID) [2,3,7].

In young children, the development of ID is mainly associated with the alimentary factor [1,3,5], and in adolescents - with puberty spurt, poor diets, chronic diseases, menarche in girls, menstrual function disorders [2,7,8], while in young men it can develop with the rapid increase in muscle mass .

Iron deficiency occurs because of a long-term negative balance of iron, the reasons for which are either its insufficient intake into the body, or its increased consumption, sometimes because of a combination of both reasons. Iron is an essential element in all living beings on the Earth, it participates in the implementation of the basic functions of life support. These are, first of all, the production of iron-containing molecules (hemoglobin, myoglobin, etc.) and the normal functioning of iron-dependent reactions (involved in the production of interleukins, T-killers, T-suppressors, metalloenzymes, maintaining the pro-oxidant-antioxidant balance, etc.). Iron reserves are a buffer that protects the body from the development of ID in various situations.

It becomes obvious that ID has a systemic effect on the vital functions of the body, especially during critical periods of growth and mental development. In young children, it can manifest by a delay in psychomotor development (delayed speech skills, impaired movement coordination, changes in behavioral reactions, etc.), in adolescents – by impaired cognitive functions and mental abilities (poor memory, concentration of attention and motivation for learning, emotional lability, increased anxiety, etc.), in adults – as a deterioration in the quality of life (insufficient vital activity and apathy, lack of motivation to achieve goals, low selfesteem), etc. It should be noted that in many even highly developed countries, where the diet of nursing women contains enough iron, "4-6% of infants still develop ID, among adolescent girls the frequency of ID reaches 13-14%, among young men-3-4%. After treatment with iron-containing medications and replenishment of the iron depot, the impaired functions are quickly restored, but in some children the consequences of ID can persist for a long time and