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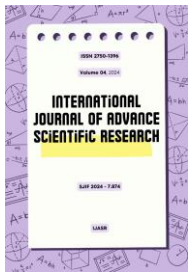

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Research Article

FEATURES OF TEACHING ANATOMY TO MEDICAL STUDENTS

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Abstract

Human anatomy is a fundamental subject of medical education, knowledge of which is necessary for the professional training of doctors of any specialty. It is the first step in the formation of clinical thinking. A doctor who does not know anatomy is helpless in practical actions, unconvincing in judgments, and cannot fully analyze examination data.

Keywords

Anatomy, strategy, quality of education, medicine, clinical motivation, teaching, body systems.

Introduction

Medical education is going through a period of reforms, not all of which can, unfortunately, be regarded as progressive, contributing to the improvement of the quality of students' training. However, one thing is certain - it is impossible to maintain a stable conservative belief that any

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deviations from the classical version are undesirable. Much has changed: the information capabilities of students have increased dramatically, they have become more independent, able to use the widest range of specialized literature on morphology via the Internet, including methodological literature. New information capabilities are perhaps the most important incentive for finding modern optimal options for teaching medical disciplines in general and anatomy in particular.

The rejection of traditional teaching on anatomical preparations has recently been motivated by the difficulties of their production, storage, and cultural, religious and legal obstacles. The essential importance of preparations of human body organs lies not only in their reliable illustrativeness. This is also a way of psychological influence on a future doctor, a call for exceptional care, respect for those who, even after passing away, continue to benefit science. We believe that natural preparations serve not only educational purposes, but are also absolutely irreplaceable in conducting students' educational and research work. They provide the opportunity for comparative research with the identification of structural variants, determination of age-related features, and morphometry.All this is absolutely meaningless on artificial, even perfectly executed dummies and drawings.

Work with natural museum specimens should be continued, naturally observing legal formalities, subject to compliance with hygienic standards that preserve the health of students. Its importance for the formation of medical thinking and obtaining specific knowledge is difficult to overestimate. It is possible to use plasticized preparations, however, they are expensive and cannot fully provide a natural appearance of an organ or body part. Without diminishing or exaggerating the importance of using natural preparations, one cannot exclude the search for a justifiably acceptable alternative replacement for demonstration and educational material.

When studying human anatomy and physiology, an important component is ensuring the clarity of teaching. There are a sufficient number of computer technologies that allow interactive learning. This facilitates the understanding of complex biological processes, and also makes it more accessible to assimilate large volumes of new material by systematizing the knowledge gained. The explanation becomes more visual. For each lecture, a multimedia presentation has been prepared, which includes drawings from modern atlases of normal anatomy.

Three-dimensional computer reconstructions of organs and systems of the human body have been added to some presentations. The use of computer animation partially replaces the difficult-to-implement need to work with biological material. With the help of three-dimensional modeling of the human body, students can easily familiarize themselves not only with the structure of individual organs and tissues, but also with the functioning of the body as a whole. It is well known that lectures prepared using computer technologies are absorbed by students better.

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Currently, significant teaching methods are associated with the introduction of interactive learning technologies. The problem of a shortage of the necessary highly specialized literature can be avoided by using electronic atlases. They are installed on a tablet or laptop, which almost all students have. Electronic textbooks with embedded hyperlinks allow you to instantly go to the desired sections, enlarge and collapse the necessary illustrations, tables and diagrams. The use of interactive encyclopedias and atlases "Human Anatomy and Physiology" allows you to supplement the information base within the course being studied and expand the methodological capabilities of the teacher due to various components (videos, animations, etc.). The demonstration of details continues during the active consultation, when students independently study the preparations. Not all practical classes on finished preparations should begin with a demonstration. For example, there is no point in demonstrating such bones as the humerus, femur, frontal, occipital, etc.These bones can be successfully studied independently, even using an atlas. It is necessary to encourage students to independently solve unclear questions, with subsequent verification of the solution by the teacher.

This brings significantly and noticeably more benefit than receiving a ready-made answer from the teacher. Another positive aspect in studying the subject using alternative methods are computer tests on the material covered. With their help, students can independently assess their knowledge and quickly get the result, without the help of a teacher. Case technology is also used in training, using situational tasks that contribute to the acquisition of knowledge and the formation of skills and abilities as a result of active independent work of students in solving problematic issues. The use of modern information and communication technologies in teaching human anatomy and physiology increases the effectiveness of students' perception of educational material. Anatomy is at a methodological crossroads: it has a transition to border areas - histology, physiology, surgery, pathology, etc. The use of modern data that have an anatomical basis increases students' interest in the material being studied, ensures professional focus of training, continuity of anatomy and clinical subjects, and improves the quality of the educational process. Disclosure of the pathogenesis of diseases, improvement of surgical technologies are based on the accumulated comprehensive information about the details of the structure, development of organs and systems.

In practical anatomy classes, one can give a large number of examples of applied anatomy. For example, when studying the functional anatomy of the urinary system, one can pose a clinical problem: a) name the possible pathogenetic factors that contribute to changes in the ligamentous fixing apparatus of the kidneys and predispose to the development of nephroptosis and pathologically mobile kidney, "renmobilis" (decreased muscle tone of the abdominal wall, infectious diseases that reduce the activity of the mesenchyme, sudden weight loss with a decrease

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in the thickness of the fatty coat of the kidneys), kidney injuries with ligament rupture; b) why does nephroptosis develop more often in women and mainly on the right? (constitutional features - a wider female pelvis, impaired tone of the abdominal wall as a result of pregnancy and childbirth, a lower position of the right kidney in the norm and a stronger ligamentous apparatus of the left kidney); c) what is the danger of renal prolapse? (stretching and twisting of its main vessels, kink of the ureter, leading to impaired hemodynamics and urine outflow); d) if the patient is indicated for kidney surgery, from which side should the surgery be performed so as not to penetrate the peritoneal cavity.

The teacher outlines the main stages of its resolution for the students independently (study of the renal fixation apparatus, the concepts of "renal bed" and "vascular pedicle", the renal membranes, its normal topography, etc.). For successful students, the research method of developmental learning can be used - offer the topic "Abnormalities in the development of the kidneys and urinary tract" in the form of an educational study.To implement problem-oriented learning, along with the traditional (visual demonstration and explanation), it is necessary in teaching anatomy: to emphasize the practical, functional context; pay more attention to the topographic and anatomical relationships of organs; highlight their clinical aspects through the details of the structure of organs; introduce into the educational process an explanation and general familiarization with the data of various clinical studies of man; use modern audiovisual technical means of teaching, multimedia complexes, interactive boards and interactive tables; make wider use of museum preparations in the learning process, dissection of anatomical material by students under the guidance of a teacher outside of class time. The advantages of using situational tasks in teaching students are that they promote interest in the subject, consolidation of acquired knowledge, independent work with literature, the ability to operate with available anatomical information and creatively approach the analysis of morphological data, help the student to check the correctness of his anatomical ideas in their clinical aspect, study the structure of the human body in more depth.

In teaching human anatomy, developmental teaching methods are not sufficiently implemented; the function of traditional forms and methods of teaching should be reoriented to self-development of students' creative thinking. On the other hand, a serious problem in medical universities has become the reduction in the number of hours devoted to the study of human anatomy, which is especially important for certain specialties ("dentistry", "medical and preventive care", "nursing", "pharmacy"), especially for those students who already need professional training in anatomy in the chosen specialty. Thus, in order to be aimed at modern standards of the educational process and the training of highly qualified specialists, the vector in teaching human anatomy should be directed towards clinical competencies, the use of all the

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best traditional and more advanced, modernized forms and technologies of teaching.

Conclusion

In conclusion, it can be said that the proposed teaching methods contribute to the development of students' skills in mastering anatomical information, creatively approaching the analysis of morphological data and bring theoretical knowledge of human anatomy closer to the needs of the clinic. Medical schools still do not pay enough attention to the development of students' individual creative thinking style.

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