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METHODS OF TEACHING MEDICAL SUBJECTS IN MEDICAL EDUCATIONAL INSTITUTIONS OF FOREIGN COUNTRIES

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Abstract : The article examines the meaning, essence, and history of the development of medical education, in addition, the article reveals modern methods of teaching medical sciences, including a detailed analysis of medical education in various foreign countries.

Keywords: methodology, teaching, essence, history, development of medical education,training, medical sciences, medical education, various foreign countries.

Medical education is constantly changing under the influence of various factors such as changing societal expectations, changing responsibilities of doctors, an evolving healthcare environment and rapidly changing medical science. Evolution brings with it various pedagogical structures and methods, the main essence of which is to assist students in obtaining, preserving and using knowledge, developing the ability to criticize, synthesize and analyze problems, while developing patterns and perspectives. Although it is generally accepted that all students should strive to achieve high academic standards and acquire the most important knowledge and skills necessary for success in the future, the best way to achieve this goal is a matter of dispute.

In 1910, a report by Abraham Flexner condemned the overall quality of medical education and brought the subject to a modern renaissance level. The report stated many seismic changes that are still reflected in medical and other professional education in the field of healthcare in the immediate environment (USA and Canada) and other parts of the world. Despite the fact that Flexner's report is more than a century old, some of his general observations and the resulting recommendations regarding medical education are as timely and relevant today as they were in 1910 (Crass & Romanelli, 2018; Schwartz, 1984). Over the years, several teaching methods have penetrated the field of medical education, partly as a measure to meet the needs of an ever-changing society.

Among the most widely used, rapidly expanding and influential, but at the same time modern methods of medical education are problem—oriented learning (PBL), competence-oriented learning (CBL), team-oriented learning (TBL), case-oriented learning (C-BL), simulation and inverted classroom (FC). Online learning platforms such as MOOC and SPOC have also attracted attention.

James Lorraine Smith, professor of medical pathology at the University of Edinburgh, famously introduced what he then called the "case study method in pathology education" in 1912 (McLean, 2016). In this teaching method, James Lorraine Smith used the study of clinical cases as the basis for a series of exercises on clinical and pathological correlation. Since then, C-BL, also called case-based learning or case-

based learning, has been applied as a pedagogical method in several disciplines, including medicine. Lorraine Smith and his colleagues foresaw the connection between the pursuit of science and the practice of medicine and, in particular, made it clear exactly how medical teachers assumed that the science and practice of pathology should best inform medical practice and cognition (Sturdy, 2007). Other notable case-based innovations in medical pedagogy in the early twentieth century include Clifford Allbutt's advocacy of "case" conferences or clinical lectures at the hospital and Richard Cabot's introduction of what would become known as the Clinical Pathology Conference, a case—based teaching method that began at Harvard in 1906 (Sturdy, 2007).

The concept of competency-based learning (CBL) was introduced in the 1920s, when businesses and industries in the United States began to explore ways of learning to maximize the specific knowledge and skills of their employees needed to produce certain subjects in a standardized manner. Due to the decline in traditional assessments of educational achievement, a movement arose in the 1960s to reduce the emphasis on basic skills in education. This required updating the minimum standards and competencies of productivity in education (Kanofsky, 2020). The shift from traditional educational models to an outcome-based model emphasized student achievement as demonstrated by observed outcomes. Competence-based medical education (CBME) has its origins in this reform of teacher education in the 1960s. The result of this learning approach is classified into specific areas of competence based on the desired educational outcomes of the program (Kanofsky, 2020). In 1999, the American Council on Medical Specialties (ABMS) and the Board of Accreditation for Postgraduate Medical Education (ACGME) approved six areas of core competencies, and the Results Initiative was soon launched (Frank et al., 2010).

The methodology of teaching medical subjects in Europe is focused on an integrated and practice-oriented approach, covering both theoretical training and clinical skills. The general features of such a technique can be described as follows

- • Modular training. The courses are divided into modules, each of which includes theory, laboratory classes, seminars and workshops. This allows you to study every aspect of medicine more deeply and at the same time gradually develop clinical thinking.
- • Problem-Based Learning (PBL). This approach assumes that students work on specific clinical cases, solve problems, and develop treatment plans. This technique develops critical thinking, self-analysis and information retrieval skills.
- • Early involvement in clinical practice. Students begin to practice in medical institutions in the early stages of their studies. This helps to consolidate theoretical knowledge and develop clinical skills. The teaching is conducted under the supervision of experienced doctors who monitor the students' actions and give feedback.
- • Interactive methods. Simulations, virtual reality and dummies are used to practice skills. This allows students to practice multiple times without risking real patients.
- • Self-study and group work. Students are taught to independently find and analyze medical information, develop scientific research and work in groups, which reflects real teamwork in the clinic.
- • Testing and assessment of competencies. Students' progress is assessed regularly through exams, tests, and clinical examinations (OSCE — Objective Structured Clinical Examination), where it is checked to what extent they have mastered theoretical material and skills.
- • Ethics and intercultural communication. An important place is given to ethical issues and learning how to interact with patients from different cultural and socio-economic backgrounds. Doctors are trained to work in multinational environments and are taught to take ethical aspects into account in their practice.
- • Scientific research. Many European medical institutions actively involve students in scientific projects and research. This gives them the experience of scientific work and the opportunity to critically evaluate data, which helps in future medical practice..

The methodology of teaching medical subjects in medical educational institutions in the United States is a carefully structured process focused on the training of highly qualified specialists. The training includes both theoretical training and practical development of clinical skills, with an emphasis on the use of

modern technologies and assessment methods. In the USA, medical school education takes four years, followed by residency, where doctors gain clinical experience in their chosen specialization.

Before entering medical school, students receive a bachelor's degree (usually in biology or chemistry) and must take the MCAT (Medical College Admission Test). The bachelor's degree program usually lasts 4 years, and students receive the basics of natural science disciplines necessary for further medical education.Medical school in the USA consists of two stages: theoretical and clinical. This is a generally accepted structure that is used by almost all medical schools in the United States, regardless of what degree students receive (MD or DO). In the first two courses, students focus on the study of basic medical sciences, which creates the basis for future clinical practice. The program includes disciplines such as anatomy, biochemistry, physiology, pathophysiology, pharmacology, immunology and microbiology.Students attend lectures and participate in seminars where they study basic scientific concepts and biological processes necessary to understand the human body and diseases. Students work in small groups to solve clinical cases. This helps to develop clinical thinking and the ability to apply knowledge in practice.

In these classes, students discuss real or hypothetical clinical cases under the guidance of a teacher. They learn to interpret symptoms, assess risks, and make decisions.

Some schools use simulation dummies and virtual reality, which allows students to practice manual skills and perform basic procedures.

During the clinical training, students undergo rotations in various medical fields, such as internal medicine, surgery, pediatrics, obstetrics and gynecology, psychiatry, family medicine and others. Rotations usually last from 4 to 12 weeks in each department. Most rotations are mandatory (core rotations), but in the last stages of their studies, students can choose elective rotations in areas of particular interest to them. This may be, for example, oncology, cardiology, neurology or other narrow specialization.

The Bedside Teaching Method: This teaching method assumes that students are directly at the patient's bedside and participate in his examination, examination and discussion of the diagnosis. Under the supervision of a doctor, students learn to conduct a physical examination, collect anamnesis and analyze symptoms. The discussion takes place right in front of the patient, which helps students understand and see the clinical manifestations of diseases.

During the rotations, students participate in the analysis of real cases, where they, under the guidance of mentors, consider diagnostic tasks, develop treatment plans and discuss prognoses. This helps to develop critical thinking skills and forms an understanding of complex clinical situations.As part of the rotations, students are trained to perform basic medical procedures such as blood collection, catheter insertion, suturing and other manipulations. They work under strict supervision, which allows them to practice their skills and gradually increase their level of independence.

Some medical schools use the method of working with professional actors who play the role of patients. This helps students develop communication skills and teaches them to be more empathetic and attentive to patients as they receive real feedback on their behavior.

Key features of the teaching methodology in Asia include an emphasis on basic sciences, early immersion in clinical practice, active use of technology and rigorous assessment of knowledge.Students begin with an in-depth study of basic medical sciences, anatomy, biochemistry, physiology, pharmacology and pathology. Much emphasis is placed on fundamental knowledge, as it is believed that it is necessary to understand complex clinical cases in the future. This stage lasts almost 1-2 years.Students begin clinical internships at the early stages of their studies (sometimes from the second year), which allows them to gradually get used to working with patients in a medical environment.

. Asian medical institutions often have high academic performance standards. The competition is very high and students have to take regular exams and tests. Medical programs in Asia include training aimed at studying infectious diseases and treatment features that are particularly relevant to the region.

As in other regions, in Asia, students undergo clinical rotations in hospitals working in different departments such as surgery, internal medicine, pediatrics, psychiatry and obstetrics. OSKE and other assessment methods are used to assess practical skills. This allows you to objectively test the skills of interacting with patients, performing procedures and making a diagnosis.

Some Asian countries, such as Japan, South Korea and Singapore, are actively implementing

simulation technologies, including VR and computer simulations to practice complex procedures. In Asian countries such as Japan and South Korea, special attention is paid to mentoring, as well as respect for senior colleagues. Mentors teach students the basics of professional ethics and discipline, instilling respect for the profession and patients.

In most Asian countries, students are required to take rigorous national exams to begin independent practice (for example, KMLE in Korea or NMC in India.) These exams are often difficult and competitive and many students prepare for them through additional courses. This ensures that all doctors meet national standards.

In medical education, the "learning-teaching" method is an active process in which both students and teachers must work on each other to illuminate knowledge. Currently, there is an increase in the number of students studying medical specialties in India, and therefore teachers of medical universities face the problem of teaching in large classes in a short period. In addition, there is a lack of consensus on the best teaching and learning methods for medical students. This study is aimed at assessing the preference of teaching methods and identifying the causes of absenteeism among medical undergraduate students at a tertiary educational hospital.

Based on the above, it can be concluded that modern medical education is actively developing under the influence of scientific progress, public expectations and changes in the role of the doctor. The introduction of innovative methods such as PBL, TBL, CBL and simulation technologies contributes to the formation of clinical thinking, practical skills and the ability to adapt to difficult situations. Key changes in the pedagogy of medical education began with the Flexner Report in 1910. Subsequently, the development of methodologies such as case-based learning and competency-based learning contributed to the introduction of a results-based approach to learning. An increase in the number of students leads to class congestion and a decrease in individual approach, as well as a lack of consensus in choosing optimal pedagogical methods hinders the standardization and effectiveness of teaching.

The active implementation of PBL, CBL and simulation technologies that stimulate student interest and allow the practice of clinical skills should be a priority for educational institutions. The use of a modular approach and individual training plans for effective learning, as well as the introduction of small groups for practical exercises and discussion of clinical cases, the widespread use of virtual reality technologies and simulation systems increases the effectiveness of training. In addition, it is recommended to organize psychological support programs to prevent burnout.These measures will help to adapt medical education to modern challenges, increase student engagement and ensure their preparation for complex clinical practice

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