Abstract. The exceptional availability of high-tech simulators is not enough to ensure the high quality of practical training of the future medical specialists. The main condition is the use of certain pedagogical technologies that ensure the continuity of the system of practice and improvement of practical skills and preparation for competent professional activity at all stages of the future doctor training.

In recent years, there has been a clear trend to improve the methods of simulation technologies in medical education at the undergraduate stage of the future doctors’ training. At the same time, an important direction is the step-by-step analysis of clinical cases followed by an extended discussion (with the elements of debriefing) and the use of additional information in the form of separate information blocks with visualization. Only at this stage it is possible to practice communication skills, to understand the clinical route of the patient, as well as to discuss possible rehabilitation and preventive measures.

The aim of this article is to share own experience of the implementation of a highly effective teaching method – the discussion of clinical cases, Clinical Case Discussion (CCD), which promotes the development of deep clinical thinking in students, the ability to practically apply knowledge in various fields of medicine, the performance of the applied differential diagnosis, and the formation of the real tactics of the diagnostic search and/or treatment of a specific patient on the example of this clinical case.

Performance of a practical session in the new Clinical Case Discussion (CCD) format promotes the development of clinical thinking, allows students to systematize the material obtained and separate dominant signs (symptoms) from secondary ones, justify the appointment of laboratory and instrumental examination methods, verify the diagnosis and develop a number of rehabilitation measures. Active participation in the discussion of specialists of related specialties (depending on the topic of the clinical case and the primary manifestation of the disease) demonstrates the importance of interdisciplinary interaction and the ability to work in a team. The use in the process of clinical discussion of separate information blocks (with visualization) regarding important symptoms, as well as diseases with which it is necessary to perform differential diagnosis, contributes to analytical thinking, a syndromological systematized approach and the formation of a final diagnosis.

Key words: training, discussion, debriefing, discussion of a clinical case.

One of the most important results of the process of students’ training for future professional activities is the desired level of formation of their professional thinking. Thinking – is a rational level and a way of forming cognitive, evaluative and practical actions. Learning – is the process of transitioning of the degree of educational-cognitive independence of the classes’ participants into the quality of their assimilation of the educational material. Those who study, understand and learn new educational material, necessarily reproduce it in situations of consolidating and applying knowledge, skills and abilities. Therefore, study always includes learning and presentation of the material. Training necessarily takes into account the acquired experience, knowledge, abilities of those who study. Since training involves the development of participants in classes, it includes such educational situations in which trainees study to learn and master the methods of professional productive activity [1].

Today, changing the educational paradigm of higher education is important for optimizing the training of future doctors. Simulation training gives every student the opportunity to practice professional practical skills, master them perfectly, while providing medical care in a safe educational environment without endangering the life and health of the patient. Performance of various types of procedures and manipulations in a simulated environment, conditions as close as possible to real ones, before performing them on real patients, will contribute to a high level of competence, professionalism, and motivate process participants. Particular importance is attached to the development of students’ communication skills, the ability to adapt to teamwork, the ability to make a decision and take responsibility for it, which is an advantage of simulation training. Fulfillment of this goal can be ensured through the use of effective pedagogical technologies, which must be individualized taking into account the level of creative abilities of the student, his educational achievements, perspectives, interests, activity, etc. [2, 3, 4].

Modern trends in medical education suggest the use of simulation technology, which allows you to achieve the highest quality realism of simulating various clinical scenarios, as well as working out the practical skills of individual diagnostic and therapeutic manipulations. Medical workers and teachers of medical institutions around the world note that training based on simulation of certain clinical situations contributes to the
improvement of the quality of medical care by increasing the productivity of specialists and the level of patients’ safety. At the same time, the exclusive availability of high-tech simulators is not enough to ensure the high quality of practical training of future medical specialists. The main condition is the use of certain pedagogical technologies that ensure the continuity of the system of practice and improvement of practical skills and preparation for competent professional activity at all stages [5, 6].

With this in mind, the main promising directions for the further successful operation of medical universities are: the creation of simulation centers, strengthening of the material-technical base, development of new and improvement of the already existing clinical scenarios in various disciplines, optimization of knowledge, skills and assessment methods. As for the teaching staff, everyone must not only teach, but also learn throughout life, intertwining the theory of learning with its practical component. After all, the key to the success of the simulation center is the presence of trained teachers, the presence of reflection (“meaningful self-analysis”), the correct debriefing [7].

On the basis of the Ivano-Frankivsk National Medical University, there is a simulation center that belongs to the academic type (the main task – is the training of students, residents, staff physicians; preparation for clinical practice and for an objectively structured clinical exam; mastering clinical skills and knowledge, communication skills. It has four sections (therapeutic, surgical, obstetrics-gynecological, pediatric ones), three rooms each. The corresponding rooms of each profile are equipped with mannequins, dummies, phantoms, etc.

However, along with a special equipment, simulation education requires special skills of the teacher and student, a special curriculum. After all, we learn only by our own experience – both successes and mistakes. It is impossible to learn from the mistakes of others. But experience can be planned and controlled, and the key task is to change behavior, awareness and change frames (acquired patterns of thinking, imaginary “frames” that we establish). This can only be achieved through debriefing. After all, a debriefing – is a professional discussion about an event, aimed at the experience of the participants during this event, and at the standards of the task performance. Only the process of reflection, organized by the teacher as a facilitator during the debriefing, leads to awareness and disclosure of frames. This allows students to independently understand: what exactly happened, why it happened, how to maintain their strengths and work on their weaknesses. The key point of the debriefing is to discuss/study the formation of the decision-making process, the execution of any actions and the validity of these decisions and actions [8].

Therefore, at the Department of Internal Medicine № 1, Clinical Immunology and Allergology named after Academician Ye.M. Neyko, in order to increase the motivation to study of the 4-5 year trainees, classes-discussions and classes with the analysis of various clinical cases of different therapeutic profiles are actively introduced into the educational process.

The level of students’ knowledge, the teacher’s methodological skill and comprehensive preparation for the seminar are necessary conditions for a fruitful discussion. Mandatory points are: the formulation of the problem and work with it in groups, making an agreed decision, creation of a dialogue at the work sites. This involves the cooperation of participants in the educational process, aimed at finding common solutions, expanding and perhaps even changing own point of view, openness in relationships. In addition, for the successful performance of a class-discussion, it is important to clearly organize it, that is, to plan it carefully, to precisely follow the rules by all participants, to follow a certain procedure [9, 10].

The class-discussion, which has been performed at the department for several years in a row, is positively perceived by the 4 year students, arouses their interest in the subject due to the atypical performance of the class, motivates them, has a certain structure and consists of the following main stages:

1) entrance testing using a QR-code for a quick assessment of the level of knowledge and obtaining rating indices from individual sections of the discipline (pulmonology, rheumatology, cardiology, gastroenterology, hematology, nephrology);
2) a short multimedia presentation about modern methods of diagnosis and principles of their implementation, treatment of diseases of a certain profile;
3) application of the role-playing elements (simulation): students play the roles of a patient, a family doctor, a laboratory doctor, a doctor of functional diagnostics, a doctor-specialist of a narrow profile, a chief doctor with further simulation of various clinical situations.

The offered class-discussion format with the elements of interactive learning increases students’ ability to think analytically, develops communication and leadership skills. Performance of a practical lesson in a new form contributes to the professional development and transformation of the role position of the teacher as a coach, moderator, facilitator, which contributes to the successful communication in the group with an emphasis on responsibility and speed of decision-making.

In recent years, there has been a clear trend to improve the methods of simulation technologies in medical education at the undergraduate stage of future doctors’ training. At the same time, an important direction is the step-by-step analysis of clinical cases followed by an extended discussion (with elements of debriefing) and the use of additional information in the form of separate information blocks with visualization. And at this stage it is possible to practice communication skills, understand the clinical route of the patient, as
well as to discuss possible rehabilitation and preventive measures [11]. At the same time, the teacher pays special attention to the formation of students’ skills for self-analysis, the education of individual aspirations for creative self-realization as a priority in ensuring complete independence of research work in the period of post-university professional activity [12].

The aim of this article is to share own experience of implementing a highly effective teaching method – discussion of clinical cases (Clinical Case Discussion (CCD)), which promotes the development of deep clinical thinking in students having little experience in the real application of the previously acquired knowledge and skills, the ability to practically apply knowledge in different branches of medicine, to carry out the applied practical differential diagnosis and to form real tactics of diagnostic search and/or treatment of a specific patient on the example of a given clinical case.

At the Department of Internal Medicine № 1, Clinical Immunology and Allergology named after Academician Ye.M. Neyko, performance of a practical lesson for the 5 year students in the new Clinical Case Discussion format has recently been introduced.

Performance of classes in this form has the format of a role-playing game and involves a certain distribution of roles and tasks – the student who represents the task, the moderator, clinicians (teachers of the department, invited teachers of adjacent departments, interns) and students-participants are chosen, who are invited to actively participate in discussion. If several students are involved in the preparation phase, it is possible to alternate in the performance of different roles, which helps to expand the experience of participating in this type of training.

Preparation for the class requires preliminary selection of a certain type of clinical case from the New England Journal (two types of cases are considered – diagnostic and management cases), translation and design of the presentation according to a clear scheme, discussion and a syndromic approach to establishing the final diagnosis. This is the task performed by a student who represents a clinical case, together with the teacher at the final stage, he chooses several (usually three) teaching points, works on writing an assessment example (a short report about a patient), and also reads the presentation. During the introductory part of the discussion (25 minutes), important information about the patient is represented according to a certain scheme.

An important role is played by the student moderator – during the preparation phase, he monitors and adapts the presentation, prepares questions in advance (sometimes with a provocative context), leads the discussion during the disputing, asks interesting questions to students, clinicians, and teachers present, encourages the discussion of the students present, and at the same time keeps the main direction of the discussion and the clarity of the conversation.

It is important to note that during the discussion, we suggest that the present students actively use gadgets and other handy tools to search for professional information, answer additional questions, and solve discussion questions. It should be noted that students at the initial stage were usually surprised by this offer, because the use of additional sources during regular practical classes is not welcome for objective assessment of the entry level of knowledge. In the clinical discussion, students were encouraged to actively express their opinion, not to be afraid to make mistakes in the process of a long discussion.

Clinicians (teachers of the Department of Internal Medicine № 1, Clinical Immunology and Allergology named after Academician Ye.M. Neyko, invited teachers of adjacent departments, as well as interns) can actively participate in the discussion, answer questions of students and colleagues, ensure compliance discussion to clinical reality (taking into account the principles of evidence-based medicine and a personalized approach to the patient), explained the correctness of the doctor’s actions in a specific situation (according to current protocols), and also paid attention to the moments that were not done, which changed the patient’s clinical route. It should be emphasized that the clinicians adhered to the principles of not condemning, not criticizing the students’ offers (after all, even a clinician cannot know everything), but creating the conditions for further processing of new information and acquisition of new knowledge.

Further verification of the diagnosis was carried out with an emphasis on the important diagnostic markers, the results of instrumental examination methods using game elements and encryption under certain letters. The main syndromes must be highlighted, as well as the criteria that confirm and deny them (pros and cons criteria, plus-minus slides).

During the next stage of the class, the moderator shows the final diagnosis, and the clinician can explain what the verification was based on, what the doctors did correctly or incorrectly according to the protocol in the clinical case, and what diseases need to be differentially diagnosed.

Summarizing the discussion, the teacher suggests paying attention to 3 main points – the so-called teaching points – basic and important information about this disease, which is worth studying, and important aspects of treatment according to modern international and Ukrainian recommendations.

An interesting and topical moment is the management of the patient after the diagnosis, rehabilitation measures and a number of measures aimed at the prevention of the complications development.

It is important to note that the discussion of such a case involves an interdisciplinary approach. Therefore, everyone present takes an active part in the class performance – the moderator controls and leads the discussion, the clinicians answer the questions, provide details
without critical points, with further encouragement of colleagues to the discussion.

In the future (in perspective), the teachers of the department plan to perform separate practical classes before the performance of FMC (final module control) for the 4 year students studying internal diseases, and for the 6 year students studying rheumatology, gastroenterology, and nephrology; this will contribute to the development of clinical thinking, a proactive position, and improvement of communication skills of the future doctors, and will also allow students to feel free in this format at the international level.

Conclusions

1. Performance of a practical class in the new format of Clinical Case Discussion (CCD) promotes the development of clinical thinking, allows students to systematize the material obtained and separate dominant signs (symptoms) from secondary ones, justify the appointment of laboratory and instrumental methods of examination, verify the diagnosis and develop a series of rehabilitation measures.

2. Active participation in the discussion of specialists of related specialties (depending on the topic of the clinical case and the primary manifestation of the disease) demonstrates the importance of interdisciplinary interaction and the ability to work in a team.

3. The use in the process of clinical discussion of separate information blocks (with visualization) regarding important symptoms, as well as the diseases with which differential diagnosis must be carried out; contributes to analytical thinking, a syndromological systematized approach and the formation of a final diagnosis.

4. Completion of the discussion and emphasis on the important points of this case (teaching points), as well as the analysis of the peculiarities of providing care in Ukraine, taking into account modern principles and approaches of the evidence-based medicine, as well as the international protocols for the management of various pathologies, are extremely important for the training and adaptation of the future doctor to the real conditions of practical work in the modern medical world.

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