

## ENGLISH VERSION: METHODOLOGICAL ASPECTS OF TEACHING "EMERGENCY MEDICINE" TO STUDENTS OF DENTAL FACULTY\*

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*Learning the discipline "Emergency medicine" provides familiarization of students with the basic principles of emergency service and mastering the professionally oriented skills and abilities. Lack of knowledge and low motivation of dental students to learning the non-core subjects requires from teachers to use the interactive teaching methods, primarily focused on increasing motivation and incentives to work independently. Therefore, in teaching the discipline «Emergency medicine» one should include a variety of learning methods that facilitate efficient mastering of new knowledge. The staff of Internal Medicine Department of Dental Faculty uses professional-oriented business games, talks, discussion of clinical situations and situational problems, competitions of scientific works / reports and provides personalized evaluation of students in time of practical training during practical sessions.*

Key words: teaching methods, dental students, urgent and emergency medical care, emergency medicine, academic discipline.

### Introduction.

Future dentists start learning the discipline "Urgent and emergency medical care" (UEMD) at the final year of training – the 5th, but even at this stage the general level of training for the majority of dental students in preclinical and clinical disciplines is insufficient for fast and high-quality mastering of knowledge and skills in emergency aid. Hence, most students have insufficient knowledge in anatomy, physiology and pathophysiology of the cardiovascular and respiratory systems, and pharmacology.

Another major problem is students' low motivation to study non-core disciplines. Moreover, the discipline is given very few academic hours (lectures □ 10 hours, practical sessions □ 20 hours). This requires from the teacher of UEMD during organization of training sessions to look for ways to motivate students to study and optimize the learning process on the basis of modern technologies and interactive teaching methods. Teaching UEMD has to be professionally oriented and include a variety of educational methods that promote a more efficient mastering of new knowledge and optimal use of hours allocated to the subject.

With the use of modern educational technology, a student becomes the center of educational process who is actively involved in building the logistics of training, choosing the path in the learning environment, whereas the main function of a teacher is his/her ability to contribute to the effective assimilation of information and analysis of the obtained knowledge [1, 4].

The aim of the research is to describe the training methods of formation of students' interest in the study of UEMD discipline and ensuring efficient self-learning of students.

### Materials and methods

Teaching UEMD is implemented through the involvement of interactive training methods in the educational process, providing incentives for active students' independent work [5].

### Results and discussion

Teaching UEMD at the Department of Internal Medicine is professionally oriented. The main teaching focus

is aimed at successful assimilation of emergency conditions, which often occur in the professional activities of dentist.

The work program in UEMD has been formed for specialty "Dentistry" according to the standard of higher education "Education and professional training programs" and "Educational qualification characteristics of specialist" (EQS). Thus, according EQS list of emergency conditions that student dentist should be able to diagnose, determine a treatment strategy and emergency medical care in accordance with existing protocols of emergency conditions medicine, includes the following: asphyxia, hypertensive crisis, acute respiratory failure, acute heart failure, acute poisoning, electrical accident, external bleeding, cardiac arrest and breathing, coma, swelling of the larynx and angioedema, unconsciousness, hypothermia, drowning, shocks, convulsions.

During a lecture in the summary form of presentations students are provided with the theoretical basis of the discipline through a variety of videos, clinical analysis of typical errors and misstatements, justification of the correct sequence of actions when providing emergency assistance in the form of interviews with active participation of students and the opportunity to express their vision of emergency and methods of elimination, with illustrations from daily life, especially those that occur in dentist's practice. These interactive lectures became possible due to introduction in the educational process of the cyclic form of training students of 4th-5th years of study at the Faculty of Dentistry starting from the 2015/2016 academic year. The cyclic classes of UEMD attends only a number of academic groups at a time, therefore, lecture has the possibility to work with a limited number of students – from 30 to 50 persons. Cycle system improves the efficiency of lectures for students, motivates them for quality mastering of the material since they will need this information during practical sessions.

During the first lecture in UEMD to increase motivation to study the lecturer focuses on the fact that the doctor, regardless of specialty, should be able to provide immediate medical care to anyone at any place and any time [6]. In addition, lecturer focuses on modern legislation which stipulates legal responsibility defined by law in

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case of failure in providing, untimely or poor medical care to a patient in need without good reason. [3]

At the lecture on cardiopulmonary resuscitation (CPR), clinical interns or medical interns enrolled in the department, specialty "Medical emergency states" are often invited. They share with students their own expertise in emergency aid, talk about real clinical cases. Also models and anthropomorphic dummies are displayed for testing various skills of CPR.

During practical sessions the teacher focuses on mastering practical skills, to study some practical skills of practicing them in the future to more complex models, including those conducted group training as a "business game": students together distribute "roles" and implement various complex scenarios for emergency medical care at the scene. The greatest attention is given to emergency conditions that are often encountered in dentist's practice.

Given the problems faced by the teacher discipline UEMD while optimizing the learning process, the department developed "Guidelines for independent work in preparation for the practical training", which include the minimum necessary information discipline UEMD, the basic requirements and a list of relevant knowledge and skills that students should learn in each subject. The guidelines define the basic concepts and explanations regarding basic skills, skills with guidance drawings, diagrams, professional algorithms (instructions) for acquiring practical skills and professional skills, as well as examples of situational tasks and tests. Thus, methodological support for independent work in preparation for practical classes is provided. All students have free access through educational portal page and the respective department at O.O. Bohomolets NMU to all materials that may be needed during the study (thematic plans, guidelines, workbooks, etc.).

To control the knowledge that a student has learned during independent work, the Department developed the "Workbook for independent work", which is one of the new forms of extracurricular learning activities of students. In the "Workbook" students need to answer theoretical questions, tests and case studies in a written form for self-control. To perform all tasks students should be familiar with the list of sources where one can find answers to questions.

In addition, students in extracurricular time independently perform "Learning model of emergency conditions". Student has to offer organizational and diagnostic algorithm of actions leading to the definition of symptoms, their analysis, make a preliminary diagnosis and apply the appropriate protocol through which should provide emergency medical care in terms of dental clinic or dental department. During the practical class teacher discusses with a group of students proposed algorithms of reviewing and assisting, and justifies the best ways to implement them.

During training, the teacher encourages students to prepare reports relating to UEMD issues, including intergroup competitions conducted work on the cathedral scientific conferences. For effective learning practical skills the department regularly organizes "workshops" using plaster casts and phantoms, involving medical interns and residents.

During training at the department most motivated students are participate in the research work, writing essays, presentations, reporting at clinical conferences, writing scientific abstracts and articles.

It is very important for active learning and skills mastering to control them at every stage of training, given the small number of hours allocated for discipline. The department has organized a computer class, set the appropriate software and created a bank of tests and situational problems. A part of educational situation tasks were taken from the bank of integrated licensing examination "KROK 2. Dentistry" in the testing center (<http://testcentr.org.ua/>), which will help better prepare students for dental examination " KROK 2".

Current control is carried out according to specific goals for each class. Student's level is tested according to:

- quality assessment of assignments in workbooks;
- solving test tasks and situational problems;
- control of knowledge of emergency medical assistance to victims (patients) in the prehospital phase, according to a certain protocol of emergency conditions medicine, subject to the relevant procedures.

The main stage of practical session includes work in the clinic, mastering practical skills, solving situational problems. Control of the main phase is made by evaluating performance of student, practical skills and ability to solve typical case studies of simulated emergency conditions.

At the final stage, the result of student's learning activities is summarized. Quality of mastering the theoretical foundations and degree of practical skills to provide emergency medical assistance to victims (patients) is assessed according to approved protocols of medical emergency conditions. For the final assessment of mastering topics, students are offered to solve the atypical (complicated) situational problem.

Students who fully met all the requirements of the curriculum, educational and vocational programs are allowed to take the final module control. The mark in the discipline is set by multi-scale as an average arithmetic estimation of mastering topics in relevant content modules, according to ECTS system and traditional scale accepted in Ukraine.

Assessment of discipline is determined by the current educational activity of student in all themes of the program. The current assessment on relevant topics is conducted by traditional 4-point scale ("excellent", "good", "satisfactory" and "unsatisfactory") followed by conversion into points.

Individual work of students is separately assessed. Additional points for individual work as the type of self-learning are given only to students who are members of students' scientific society of the department and actively participate in its work or scientific publications.

The department regularly analyzes the academic success and the final survey is conducted among students as one of the mechanisms for monitoring the quality and effectiveness of training.

Use different teaching methods and approaches at the dental faculty provides mastering of the necessary knowledge and skills. As a result of the implementation of cycle training system, complex motivational activities and enhanced methods of learning activities in the classroom and during extracurricular work, the successful passing of the final module control by students in the last year has increased by an average of 0.25 points (the traditional system of assessment).

**Conclusion.**

To improve the efficiency of learning UEMD by students of dental faculties it is advisable to use a variety of teaching approaches and methods that motivate students, especially for independent research on the subject. Efficient ways to optimize the educational process in classroom are professionally-oriented business games, talks, discussion of specific clinical situations and situational problems, work competitions / reports. The personalized assessment of student's work at each stage of practical training is a mandatory motivational component.

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