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PRACTICAL CLASSES FOR THE FOREIGN STUDENTS AT THE DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY OF BOGOMOLETS NATIONAL MEDICAL UNIVERSITY IN THE CONDITIONS OF MARTIAL LAW IN UKRAINE

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In the conditions of the martial law and COVID-19 pandemic restrictions on the territory of Ukraine, the blended form of education turned out to be the only possible form of the educational process. The article highlighted the peculiarities of conducting practical classes in the discipline "Surgical dentistry" with foreign students at the Department of Oral and Maxillofacial Surgery of the Bogomolets National Medical University (NMU) in the conditions of martial law in Ukraine. For the implementation and adequate virtual distance learning at the University, LIKAR_NMU education platform, Zoom, Google Meet, the university website, the NMU library website, Skype, Telegram, Viber messengers, e-mail were used. However, the biggest disadvantage of distance learning was the lack of opportunity to work with the patient and acquire practical skills. Foreign students who returned to Ukraine (or being in Ukraine) attended offline training, mastered practical skills on phantoms and dummies, were present at surgical operations in the clinic, independently performed anesthesia under the guidance of a teacher, removed teeth, assisted in operations on the maxillofacial area. Due to video conferences, distance learning students also had the opportunity, to see the operations, carried out in the Bogomolets Dental Medical Center, online, in real time. Thanks to the technical capabilities and educational Internet platforms, which are actively used during distance learning by students and teachers of the university, the initial process of obtaining a modern higher medical education, in particular surgical stomatology and maxillofacial surgery, continues and improves in wartime conditions

Keywords: distance learning, medical education, surgical dentistry, practical classes, students

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1. Introduction

The global emergency situation, caused by the full-scale invasion of the Russian Federation in Ukraine and the COVID-19 pandemic, has put forward new requirements for the development of medical education in Ukraine. A difficult situation has also developed in dental education, where one of the main conditions for quality study and assimilation of knowledge is its application in practice. Distance education was forcibly introduced, and later transformed into a blended form, due to the temporary suspension of offline education in all educational institutions because of the need to preserve the lives of all participants in the educational process [1, 2].

2. Literary review

The coronavirus pandemic and the mandatory quarantine measures, associated with it, have revealed vulnerabilities in all spheres of social life without exception, including the field of higher education [3, 4]. The education industry quickly revised its approaches to learning and supplemented its traditional forms and methods with distance methods in order to protect the collectives of educational institutions from illness and prevent the spread of COVID-19 [5, 6]. Regardless of the

complexity, all participants interested in the educational process found ways to overcome the difficulties, caused by the difficult epidemiological situation, and to master new forms and methods of learning [6–8].

In connection with the introduction of martial law in Ukraine, there was a need to create appropriate conditions for the education of students at higher educational institutions, including the Bogomolets National Medical University–[1, 9, 10], in particular at the Department of Oral and Maxillofacial Surgery [11, 12].

Despite the active implementation of distance learning technologies in the medical education of Ukraine, we did not find data on the international and domestic experience of conducting practical classes with the use of distance education methods for students of medical, in particular dental, education in the conditions of martial law.

3. Research aim and tasks

The aim of research was to consider the peculiarities of conducting practical classes in the discipline "Surgical Dentistry" and to demonstrate the use of educational web platforms, in particular LIKAR_NMU, Zoom meet during the training of foreign students at the Department of Oral and Maxillofacial Surgery of the Bo-

gomolets National Medical University in the conditions of martial law in Ukraine.

To achieve the aim, the following tasks were set:

1. To analyze the peculiarities of conducting practical classes with foreign students at the Department of Oral and Maxillofacial Surgery of the Bogomolets National Medical University.

2. To describe and analyze the accumulated experience of using technologies of distance educational web platforms, in particular LIKAR_NMU, Zoom meet in the educational process at the Department of Oral and Maxillofacial Surgery of the Bogomolets National Medical University.

3. To substantiate the importance and to improve methodological approaches of conducting practical classes for foreign students at the Department of Oral and Maxillofacial Surgery of the Bogomolets National Medical University in the conditions of martial law in Ukraine and to specify the existing difficulties in their application.

4. Materials and methods

The study was conducted on the basis of the Department of Oral and Maxillofacial Surgery of the Bogomolets National Medical University during the II half of 2021–22 academic year and 2022–23. Students were educated in accordance with the programs, requirements and schemes of full-time education. The main types of distance classes were traditional forms of education, namely lectures and practical classes.

The Department of Oral and Maxillofacial Surgery has its own information base [13], which is posted on the Bogomolets NMU website with the current schedule of practical classes and lectures, thematic plans, methodological developments, video content of lectures, video files of practical skills, operational interventions and other information sources, which are constantly updated.

The educational process at the department was carried out using the LIKAR_NMU distance learning platform [14], Zoom, Google Meet, Skype, Telegram, Viber messengers, e-mail.

The evaluation was carried out based on the results of the test, the analysis of the presented abstracts and face-to-face discussion: the results of the test tasks were discussed, the radiographs were examined and described (dental images, orthopantomogram, CT scan of the maxillofacial region, CT scan of the temporomandibular joint (TMJ), the lower jaw in the Haensch lateral projection, bones of the facial skull in direct, axial and semi-axial projections, tissues of the floor of the oral cavity, MRI of the TMJ and salivary glands), clinical cases and situational problems. Feedback with the teacher is extremely important, therefore, in the absence of the student during the teleconference, communication was carried out using e-mail, chat, and social networks.

The final control of knowledge was carried out with the help of remote information and communication technologies, in particular, video communication, which allows authenticating the learner, is relevant. In the case when the student studied offline, this control was carried out during real communication with the examiner, which of course made it possible to fully implement the requirements regarding the academic integrity of the student and to objectively assess the student's knowledge.

5. Research results

The difference between a higher medical educational institution and other higher educational ones is the need for future doctors to be not only theoretically informed, but also to be practically prepared, which in turn creates additional challenges and tasks for the teaching staff of the university, in particular for the employees of the Department of Oral and Maxillofacial Surgery of the Bogomolets National Medical University. In the conditions of martial law, as before during the quarantine, the platforms of Zoom, Google Meet, Skype, Telegram, Viber, e-mail are actively used for the communication of the educational process participants. For online distance learning and for performance of practical independent work tasks, a distance learning platform has been developed and implemented at the Bogomolets NMU [14].

The vast majority of foreign students continued their studies at the Bogomolets NMU despite the state of war in Ukraine. Future dentists, being in different countries and on different continents, joined the work on the Zoom platform on time, uploaded completed independent work, abstracts, essays, video presentations on the subject of the class and performed test tasks on the web platform of NMU "LIKAR_NMU", and during its blocking due to hacker and missile attacks – sent to the e-mail address of the teacher [11, 12]. In the first months of the war, teachers of the Department of Oral and Maxillofacial Surgery adapted their work to the challenges of the war with the involvement of modern gadgets, various programs, and the Internet, which made it possible to continue the systematic educational process.

Distance learning technology requires a constantly functioning power grid and the Internet. Unfortunately, the energy system of Ukraine suffered from enemy missile attacks for several months, which was also reflected in the educational process. Teachers are forced to find opportunities and to conduct classes at "points of invincibility" in after-hours agreed with students, so that students have the opportunity to follow the curriculum in the discipline of "Surgical Dentistry" and to master all the necessary competencies of the future specialty.

Conditions for mastering practical skills and practicing them, fixing them on phantoms and dummies have been created for foreign English-speaking students who have returned to Ukraine and are interested in surgical dentistry and maxillofacial surgery. Students are present at surgical interventions in the clinic, perform anesthesia, tooth extraction independently under the guidance of a teacher, assist in operations of the maxillofacial area. Thus, students form not only the components of praxeological competence, but also develop the necessary communication skills when communicating with patients, their relatives, medical staff, and colleagues.

Teachers of the department distribute the necessary educational material, content for conducting practical classes and lectures among students. Students and teachers order needed books if necessary from the library of the Bogomolets NMU, for which an online application form is filled out, which is sent to an e-mail. The library's repository is constantly filled with new printed works of scientific and pedagogical staff of the department, so students can freely access the latest scientific developments in surgical dentistry and maxillofacial surgery.

Applicants of education have the opportunity to obtain additional knowledge on topics that interest them via the Internet and with the help of educational platforms for self-mastery of educational material: Coursera, Prometheus, EdEra, KhanAcademy, etc. [15–18]. Thus, in accordance with the challenges of modern times, future specialists not only study surgical dentistry and maxillofacial surgery in depth, but also improve their ability to learn and independently find information for further analysis with the teacher of the group.

From the first months of the war, the European Association of Cranio-maxillo-facial Surgeons (EACMFS) held free online seminars and lectures on traumatology of the maxillofacial area, which were attended not only by EACMFS member teachers, but also by students of 4–5 years of the Dental Faculty.

Many times, students expressed a desire to be present at surgical interventions, but they did not always have such an opportunity due to the pandemic situation, and the issue became even more acute during the war. Therefore, the teachers of the department introduced live surgical interventions in an online format. Often only one or two students in a group study remotely, and the rest attend the university offline, or vice versa. In each case, all participants of the educational process are involved in learning and have the possibility of video communication with the group and the teacher during the practical session.

So, for example, the licensed Zoom platform is used to conduct online classes during the study of the discipline "Surgical Dentistry" by foreign English-speaking students of the 3rd year of the Dental Faculty in a blended format (since most of the foreign students evacuated, only some of them remained in Ukraine). For the first time, students of the 3rd year studying inflammatory diseases of the maxillofacial area, saw operations, performed at the Dental Medical Center of the Bogomolets National Medical University online, in real time: atypical removal of the third lower and upper molars, plasty of the upper, lower lip and tongue frenulums, dental implantation on the upper and lower jaws, resection of the apex of the tooth root, cystectomy of the retention cyst of the minor salivary gland of the lower lip, open curettage of pathological tissues of the upper jaw. During the online broadcast, students who were present offline and online had the opportunity to ask questions about a surgical intervention, in order to fully understand the treatment tactics. At the end of the operation, a summary was drawn up and all stages of a surgical intervention were once again discussed with a detailed analysis of radiographs of patients who were operated on.

The advantage of distance education using video conferencing platforms was the possibility of the presence of foreign English-speaking students from different parts of the world at a complex operation online, and those who were directly at the surgical intervention had the opportunity to see the operating field up close on their devices.

An example of a motivated attitude to learning is 4–5 years students who study offline and master practical skills in performing anesthesia and tooth extraction on phantoms, learn to apply different types of surgical sutures on special dummies: knotted, continuous, U-shaped, 8-shaped, intradermal, etc. Students independent-

ly, under the guidance of a teacher, perform conductive anesthesia and tooth extraction in patients who have sought help at the surgical department, or those they treat and provide prosthetics at the adjacent departments of the Dental Faculty. Keeping in touch with the teachers of the department, even after graduating from the university, intern doctors seek advice from the teacher of the department in difficult clinical cases, when they hesitate in the correctness of the established diagnosis or the choice of treatment of certain patients.

The remote technology of video conferences in dental education also makes it possible to successfully use such interactive learning technologies as the case method, brainstorming, game, design, telemedicine techniques, which contributes to the formation of both general and special competencies, in particular: teamwork, creative thinking, learning through research.

English-speaking students of the 3–5 year of the Dental Faculty during a practical lesson of surgical dentistry, after analyzing the topic using standardized questions and watching an educational video, had the opportunity to participate in the so-called "doctor-patient" game. In the clinical office, in conditions close to reality, offline students were a doctor-patient pair, and those present in Zoom set tasks for them, formulated complaints for the "patient" and asked the "doctor" to conduct certain examinations, carried out differential diagnosis and established a diagnosis for the "patient". After completing the task, all parties in the educational process discussed the mistakes made and suggested possible ways to avoid them in the future.

Thus, due to communication with the patient and visualization of surgical interventions in a clinical surgical room or operating room, they observe the work of their teammates on phantoms and dummies. Students develop components of praxeological competence, which is a mandatory part of a doctor's education.

Sometimes the process of studying students and the work of teachers are interrupted by the sounds of air-raid sirens. The participants of the educational process immediately go to the shelter. However, this does not stop our students from studying. Despite the danger, we continue to work online, in a safe place, equipped with the Internet and the necessary material for the educational process. After the alarm is over, the learning process continues as usual.

The conducted research is limited to a short period (1 year), so in the future the effectiveness of this method will be investigated and the results will be verified in the educational process.

6. Conclusion

1. Practical classes were held with foreign English-speaking students at the Department of Oral and Maxillofacial Surgery of the Bogomolets NMU in the conditions of martial law in Ukraine thanks to modern technical capabilities and online educational platforms.

2. The practical experience of using technologies of distance educational web platforms, in particular LIKAR_NMU, Zoom meet in the educational process at the Department of Oral and Maxillofacial Surgery of NMU, is described and analyzed. Attention is focused on the need for offline training of students of the Dental

Faculty for the full mastery of practical skills in the discipline "Surgical Dentistry".

3. Methodical approaches to conducting practical classes with foreign English-speaking students at the Department of Oral and Maxillofacial Surgery of the Bogomolets NMU in the conditions of martial law in Ukraine with the involvement of modern gadgets and the live broadcast of operational interventions and educational manipulations have been improved.

Conflict of interest

The authors declare no conflict of interest with respect to this work, as well as the published results of the

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Data availability

Data will be provided upon reasonable request.

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