

PRACTICAL TRAINING OF HIGHER EDUCATION LEARNERS IN SPECIALTY STOMATOLOGY AT BUKOVINIAN STATE MEDICAL UNIVERSITY

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Considerable changes have taken place in the health care system of Ukraine. These processes produce a great influence on higher medical education, and therefore, it is significantly transforming. Comprehensive mastering of a substantial amount of practical skills, continuous advance of professional training quality is one of the important tasks at higher medical educational institutions. Training of a dentist involves practical training of essential common medical manipulations as well as special skills in diagnostics, prevention, and treatment of dental diseases.

Objective structured clinical exam (OSCE) is a leading one in training of higher education learners in the field of dentistry. The exam stimulates learning and concentrates student attention on acquiring clinical competence, increases the quality of educational experience of those taking the exam. It provides validity and reliability of assessment, qualitative feedback relations with current assessment of knowledge and skills of students.

Objective – to analyze the educational-professional program «Stomatology» and directions of its implementation among higher education learners at the departments of stomatology.

Materials and methods. Analysis of the educational-professional program «Stomatology», psychological-pedagogical and methodological literature, materials of educational-methodological conferences, methodological work of the departments. To achieve the aim, to specify the content and peculiarities of implementation of up-to-date pedagogical methods in the educational process the following theoretical methods of the research are applied: analysis, synthesis, generalization, comparison, and systematization.

Conclusions. Implementation of the educational program 221 «Stomatology» at Bukovinian State Medical University is based on current scientific achievements of stomatology and dentistry aid system. The program considers special distinctive features in the development of the regional health care system under conditions of labor market transformation. Education is focused on a qualified practical dentistry training of learners by means of integration of international innovation educational technologies. OSCE produces a positive effect on the educational process, since it stimulates learning. The attention of learners is concentrated on mastering clinical competence. Student knowledge is assessed under conditions as close as possible to clinical ones. It helps accurate assessment of their skills and abilities necessary in professional work.

Key words:

Educational-professional program, education, student, assessment, objective structured clinical exam.

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ПРАКТИЧНА ПІДГОТОВКА ЗДОБУВАЧІВ ВИЩОЇ ОСВІТИ ЗА ФАХОМ «СТОМАТОЛОГІЯ» БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ

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У системі охорони здоров'я України відбулись значні зміни. Ці процеси мають великий вплив на вищу медичну освіту, і тому вона значно трансформується. Досконале опанування значним об'ємом практичних навичок, постійне підвищення якості професійної підготовки є одним із важливих завдань вищих медичних закладів освіти. Підготовка лікаря-стоматолога передбачає практичне відпрацювання необхідних для лікаря не тільки загальномедичних маніпуляцій, а й спеціальних навичок із діагностики, профілактики, лікування стоматологічних захворювань. Провідним у підготовці здобувачів вищої освіти за фахом «Стоматологія» є об'єктивний структурований клінічний іспит, який стимулює навчання і концентрує увагу студентів на набутті клінічних компетентностей, підвищує якість начального досвіду в осіб, що складають іспит, забезпечує валідність та надійність оцінювання, якісний зворотній зв'язок при поточному оцінюванні знань та вмінь студентів.

Мета дослідження – здійснити аналіз освітньо-професійної програми «Стоматологія» та напрямів її реалізації у здобувачів вищої освіти на кафедрах стоматологічного спрямування.

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Ключові слова:

освітньо-професійна програма, навчання, студент, оцінювання, об'єктивний структурований клінічний іспит.

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Матеріал та методи. Аналіз освітньо-професійної програми «Стоматологія», психолого-педагогічної, методичної літератури, матеріалів навчально-методичних конференцій, методичної роботи кафедри. Для досягнення мети, уточнення сутності та особливостей використання сучасних педагогічних технологій в освітньому процесі застосовано теоретичні методи (аналіз, синтез, узагальнення, порівняння, систематизація).

Висновки. 1. Реалізація освітньої програми 221 «Стоматологія» у БДМУ ґрунтується на сучасних наукових досягненнях стоматології та системи стоматологічної допомоги. У програмі враховано специфіку розвитку системи охорони здоров'я регіону в умовах трансформації ринку праці. Навчання зорієнтоване на кваліфіковану практичну стоматологічну підготовку здобувачів шляхом інтеграції міжнародних інноваційних освітніх технологій. 2. Об'єктивний структурований клінічний іспит позитивно впливає на освітній процес, оскільки стимулює навчання: увага здобувачів вищої освіти зосереджена на набутті клінічних компетентностей. 3. Знання студентів оцінюються в умовах, максимально наближених до клінічних, які допомагають найбільш точно оцінити їхні вміння і навички, необхідні у професійній діяльності.

Introduction

Higher medical education in Ukraine is an integral part of the national education system and health care. The current level of the development of medical technologies, rapid increase of the amount of medical information, requirements to the quality of medical aid and safety of patients demand the latest approaches to the organization of educational process as an active learning and cognitive activity at the higher medical educational institutions [1].

A qualitative training of personnel is a very acute problem in modern Ukraine against a background of reforms in the national health care system, general acceleration of the development of the world medicine and social spheres, as well as in the conditions of intense international mobility of medical workers. Implementation of the latest and innovative learning technologies, assessment and control of the educational process quality is a cornerstone of current reforms in the higher medical education in Ukraine [2].

Modern trends in the development of the labor market in the field of dentistry provide training of professionally competent and erudite specialists who are competitive. Educational-professional program (EPP) 221 «Stomatology» of Bukovinian State Medical University (BSMU) is aimed at training of specialists in this field with specific amount of knowledge, skills and abilities, which enable them to work effectively at healthcare institutions of various forms of property. Professional training considers specific development of the health care system in the region under conditions of labor market transformation. Teaching students is focused on a qualified practical dentistry training by means of integration of international innovative learning technologies including modern simulation studies, educational and training phantom classes and dental rooms equipped with high quality devices produced by world known companies.

The interests and suggestions of the interested parties are considered when the purposes and program learning outcomes are deduced according to EPP. Minimum twice a year an anonymous questionnaire of higher education learners is carried out concerning their attitude and assessment of the quality of education. After the survey result are analyzed, they are discussed at the Academic

Council meeting of the Dentistry Faculty and Subject-Methodical Board on disciplines of the dentistry profile. They are considered when EPP is renewed.

Formation of an individual learning trajectory allows students a free choice of the subject and clinical base for practical training. The representatives of the University Student Government are members of the University Academic Council and participate in monitoring of the quality of educational services provided by the higher educational establishment (HEE).

Potential employers and the academic community also participate in the formation of purposes and program outcomes of the EPP within the scope of implementation of cooperation agreements between BSMU and the Department of Health Care of Chernivtsi Regional Administration, municipal and private stomatological institutions. Their suggestions and comments are discussed during joint events: conferences, round-table talks, master classes, workshops, during conclusion of the contracts of cooperation, at the meetings of the Subject-Methodical Board, and Faculty Academic Council.

It should be noted that during revision of the educational program the project team considers the experience of foreign institutions-partners of BSMU. The University closely cooperates with educational institutions of Spain, Romania, Poland, Lithuania, Germany etc.

Annual bilateral exchange takes place in the international partner institutions for the teaching staff of BSMU Dentistry Faculty and students of the Faculty. Mobility of the University scientific-teaching staff brings a number of advantages at the individual, institutional, national and regional levels. Due to international contacts, innovative teaching/learning methods and interactive educational methods are introduced.

One of the important tasks of the higher medical school is continuous improvement of professional training and comprehensive mastering of a considerable amount of practical skills. Practical training of students-dentists is compulsory. It includes practicing common medical manipulations essential for a doctor, as well as special skills in diagnostics, prevention, and treatment of stomatological diseases [2]. BSMU founded the Center of Simulation Medicine and Innovative Technologies to

provide teaching/learning and improvement of practical training of future doctors.

Objective

To analyze the educational-professional program «Stomatology» and directions of its implementation among higher education learners at the departments of Dentistry.

Materials and methods

Analysis of the educational-professional program «Stomatology», psychological-pedagogical and methodological literature, materials of educational-methodological conferences, methodological work of the departments. To achieve the aim, to specify the content and peculiarities of implementation of up-to-date pedagogical methods in the educational process the following theoretical methods of the research are applied: analysis, synthesis, generalization, comparison, and systematization.

Results and discussion

Educational process at the Department of Surgical Dentistry and Oral Surgery of BSMU has the following forms: practical classes, independent student work, individual tasks, practical training, testing. The main kinds of educational process are lecture, practical class, individual class, consultation. The program learning outcomes are achieved by means of competent approach, student-concentrated teaching, problem-oriented learning, using simulation technologies, learning via practice, initiative self-study, and combination of learning with research work.

Formation of social and communicative skills or «Soft Skills» is provided by the University Student Government, the School of Young Scientists, the Leaders' School, scientific conferences, the Volunteers' Group, where higher education learners get their skills to effectively cooperate in professional surroundings, communicate with others, become self-organized, stress resistant, and creative. The «Soft Skills» conception covers not only a traditional model of education, but an integrated one as well. It includes planning of clinical situations, discussion of cases during practical classes using simulators and mannequins.

Our future dentists are the members of the Leaders' School. Its work is focused on the development of individual features of a student and the whole student community.

Due to adequacy of learning methods and teaching an educational component, academic freedom of the Department teaching staff implies the possibility to be free to choose the teaching methods, to participate in the development and periodical review of the curriculum and EPP.

The academic freedom of students includes the possibility to be free to express one's opinion in class, to choose the subject of a scientific research and a scientific supervisor as a part of participation in scientific and practical conferences, symposia, and contests.

The Student Scientific Society and the Young Scientists Council function at the University with the

aim to combine learning and research while realizing the curriculum. The first one unites higher education learners who study at the University and have a desire and time for scientific research. The Young Scientists Council is a union of young scientists under 35. The most important terms of participation in the scientific society is an active research activity promoting the development of medical science.

Thus, every year the International Medical-Pharmaceutical Congress of Students and Young Scientists takes place at BSMU in April. It is known as Bukovinian International Medical Congress (BIMCO). The Congress is listed in the Register of Scientific Conferences of Higher Education Learners and Young Scientists of the Ministry of Education and Science of Ukraine. About 1500 young scientists from more than 30 countries of the world take part in the work of the Congress annually. BIMCO maintains international partnership with 35 medical conferences of 20 higher educational institutions of Europe and the whole world, having its 30 ambassadors in 20 countries.

A combination of learning and research while realizing the curriculum is provided by organization of scientific and practical conferences at the Departments of Stomatology.

BSMU electronic repository is working. It includes approximately 15 000 electronic records. The following bases and platforms are available now: Web of Science, Scopus, EBSCO «MEDLINE with Full Text», Springer Nature and JohnWiley & Sons publishing houses.

Assessment is one of the final stages in the student's learning. It determines success. Information concerning the forms of control and assessment criteria are reflected in the curriculum on the subject and the syllabus for students published on the web-site of the Department, BSMU distance learning platform MOODLE (Modular Object-Oriented Dynamic Learning Environment), information boards, and is presented to learners during the first class.

Standardized methods are preferred during assessment: testing, structured written papers, according to the procedure of testing practical skills under conditions close to the real ones. As to the content, the student's achievements of specified learning outcomes are assessed, in particular the level of knowledge, skills, abilities and competencies. Control is carried out in accordance with regulatory and legal acts of BSMU.

The current control is accomplished on the base of comprehensive assessment of student's activity including testing of the initial level of knowledge, theoretical preparation, quality of the practical work done, student's activity during discussion of the subject of a lesson, and the results of the in initial level of knowledge. The forms of current control, the assessment system and the assessment criteria of the level of knowledge are determined in the curriculum outcomes in the discipline «Surgical Dentistry» by the Department of Surgical Dentistry and Oral Surgery.

In order to assess the learning outcomes at the educational and qualification levels or at its separate completed stages, a final test is carried out in the form of final module test including educational material

determined by the curriculum and in the terms defined by the educational plan.

According to the Standards of higher education in specialty 221 «Stomatology» for the second (Master) degree of higher education (the Order of the Ministry of Education and Science of Ukraine № 879 of 24.06.2019) and the EPP of training Masters of stomatology at BSMU in specialty 221 «Stomatology», the graduates of the Stomatological faculty take the final attestation in the form [2] of a single state qualification exam (SSQE) [4]. SSQE consists of the following components: integrated test exam «KROK», exam in professional English, and Objective structured clinical exam (OSCE) in specialty 221 «Stomatology».

OSCE is an effective way of assessing the competence of graduates. This makes it possible not only to determine the level of mastering the essential minimum of practical skills, but also obtain the information concerning the ways of improving practical training of future dentists [2]. The aim to implement this exam into higher medical education system is to increase the effectiveness of training students by means of activation of learning.

OSCE is an instrument to assess clinical competence under simulated conditions.

The concept of the exam in OSCE format is to simulate the process of examination and treatment of patients. Therefore, practical tasks at the stations as a rule are the tasks for assessment of communication skills, interpretation of findings, and technical skills as well. OSCE is more than a comprehensive exam. It is concentrated on implementation of a competent approach to assessment of students in medical specialties [3].

OSCE allows testing of clinical competence. In this way, the level of clinical skills and abilities associated with the competence of independent or unsupervised implementation of medical activity can be checked. To carry out OSCE, various simulators, standardized or real patients can be used. Contrary to traditional methods of assessment, this exam allows evaluation and demonstration of what learners are «able to do», but not what they «know» [1].

Objectivity and a structured model – the two major principles available – are the distinguishing features of OSCE.

Objectivity is provided by the use of standard assessment scales. Moreover, the same examiner, previously prepared to evaluate the exam at a certain station, examines all the students. An appropriately written checklist at the station allows objective assessment of previously defined elements of a certain clinical skill considering the course of studies mastered by a student.

An adequately structured OSCE station possesses a standard design for assessment of specific clinical competence included into the program of the exam. All the learners perform similar tasks during the same time at each station [3].

The Departments of Stomatology are involved in preparation and conduction of OSCE at the Dentistry faculty. Therefore, the whole range of stomatological manipulations is covered that a dental student should be able to master at the end of the fifth year of study.

The preparatory period to OSCE includes the following stages:

1. The list of practical skills (clinical situational tasks) included in OSCE and the algorithm of their performance are published in the electronic educational resource «OSCE» on the University distance learning platform MOODLE no later than a month before the exam.

2. The responsible Departments develop the algorithms of task performance based on the current standards of giving medical aid. Higher education learners study practice these algorithms mainly during practical classes, consultations and trainings.

3. Checklists to assess the level of student's training are developed based on the algorithms.

4. The teaching staff of the Departments provide the methodical support of OSCE including passports of examination stations. They submit the passports for review and approval in accordance with the established procedure at a meeting of the Central Methodological Board. They ensure a proper work of the whole examination station during OSCE examination period.

Methodical support of the stations (the passport of the examination station) includes the following constituents:

1. Name of the station. 2. Authors. 3. Professional standard or aspect (kind) of medical activity. 4. Competence to be tested (general and professional) 5. Learning outcomes to be tested. 6. Duration of work at the station per 1 learner. 7. Tasks formulated and specified by the choice of developers in details for practical skill/clinical situation. 8. The maximum score that can be obtained at the station. 9. Equipment. 10. Clinical situations or pathological conditions. 11. Regulations. 12. Supplements (Instruction for a higher education learner at the station; Instruction for a standardized patient (if any); Instruction for an examiner; Algorithms to perform practical skills; Checklists.)

OSCE is carried out on the base of the BSMU Center of Simulation Medicine and Innovative Technologies.

After students of one group pass the exam, the examiners hand over the checklists to the secretary who enters the information into the relevant registration forms.

The results of the exam are announced to students on the day of its completion.

A student can file an appeal and challenge the results of the exam in case he/she does not agree with it. Appeals are considered by the Appeal Board by viewing the video recording of the student taking the exam. The members of the Appeal Board are determined by a relevant order of the University.

Conclusions

1. Implementation of the educational program 221 «Stomatology» at Bukovinian State Medical University is based on current scientific achievements of stomatology and stomatological aid system. The program considers special distinctive features in the development of the regional health care system under conditions of labor market transformation. Education is focused on a qualified practical stomatological training of learners by means of integration of international innovation educational technologies.

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2. OSCE produces a positive effect on the educational process, since it stimulates learning. The attention of learners is concentrated on mastering clinical competence.

3. Student knowledge is assessed in conditions as close as possible to clinical ones. It helps accurate assessment of their skills and abilities necessary in professional work.

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