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Methodological aspects of programs' updating for advanced training of doctors

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An important component of improving the healthcare system is providing medical institutions with highly qualified personnel. In the era of evidence-based medicine, clinical guidelines developed by the expert community and approved by regulatory authorities are the cornerstone of maintaining the knowledge and skills of medical personnel at a high level. In modern medicine, new data are accumulating very quickly, which requires regular changes in the algorithms for managing specialized patients. Frequent updating of clinical guidelines and their increasing importance as a document regulating the provision of medical care to patients with various diseases necessitate the intensification of additional professional education of doctors. Doctors' awareness of the current provisions of clinical guidelines and readiness to implement them in everyday practice is an important condition for the compliance of real medical care with modern requirements. Under the conditions of the system of continuous medical education, the programs for improving the skills of doctors should be constantly improved. The article discusses the methodology for updating educational programs based on the analysis of the results of an anonymous survey of doctors on the main aspects of the current clinical guidelines. Identification of questions, the answers to which turn out to be incorrect more often than others, and quantitative analysis of the distribution of incorrect answers allow to correct programs in order to achieve a higher level of knowledge of trainees in the most difficult sections of clinical guidelines. Information about the changes that were made to the advanced training programs for doctors in the diagnosis and treatment of cardiovascular diseases on the basis of the data obtained during the questionnaire is presented. It is expected that the discussed methodology for updating the advanced training programs for doctors will help to improve the provision of the needs of modern healthcare for highly qualified personnel.

Keywords: doctor's qualifications, postgraduate education, programs, actualization, questioning.

Actuality (from late Latin actual — actually existing, real, modern) — the importance, significance of something for the present moment, modernity, relevance to present-day.

Big encyclopedic dictionary, 2012¹

Increasing the life expectancy of the population of the Russian Federation (RF) is considered one of the national goals of the development of our country². An important condition for its achievement is the improvement of the health care system, including the provision of medical institutions with highly qualified personnel. To solve this problem in the Russian Federation, the system of advanced training and assessment of the professional level of doctors is being reformed. The main prerequisites for changing approaches to the additional professional education of doctors are the following:

- acceleration of the process of improving diagnostic methods and treatment of diseases and, accordingly, the rapid obsolescence of the knowledge of medical workers;
- strengthening the role of clinical guidelines of the Ministry of Health (MH) of the Russian Federation as regulatory documents³;
- the need to form an individual plan for advanced training for each medical worker, taking into account his tasks and the level of professional skills [1];
- widespread introduction of distance learning technologies, which has gained particular importance in the context of the COVID-19 pandemic [2].

A prerequisite for achieving and maintaining a high qualification level of a modern doctor is his participation in the system of continuing medical education (CME). The legitimacy of CME is determined by the accelerating progress of clinical medicine and the current procedure for obtaining the right to carry out medical and pharmaceutical activities. In accordance with the Federal Law dated November 21, 2011 no. 323-FL⁴ and the Order of the Ministry of Health of the Russian Federation dated December 22, 2017 no. 1043⁵ from January 1, 2021, admission to the professional activity of medical workers of all specialties is carried out not by extending the certificate of a specialist, as before, but on the basis of the results of periodic accreditation, which is carried out once every five years. The periodic accreditation procedure foresees an assessment of the portfolio, which

¹ Big encyclopedic dictionary. Available at: <https://www.vedu.ru/bigencdic/1450/> (accessed: 14.06.2021).

² Ukaz Prezidenta Rossiiskoi Federatsii ot 07.05.2018 № 204 “O natsional'nykh tselyakh i strategicheskikh zadachakh razvitiya Rossiiskoi Federatsii na period do 2024 g.”: ofits. tekst. Available at: <http://www.kremlin.ru/acts/bank/43027> (accessed: 12.12.2021). (In Russian)

³ Federal'nyi zakon ot 25 dekabrya 2018 g. N 489-FZ “O vnesenii izmenenii v stat'yu 40 Federal'nogo zakona ‘Ob obyazatel'nom meditsinskom strakhovanii v Rossiiskoi Federatsii’ i Federal'nyi zakon ‘Ob osnovakh okhrany zdorov'ya grazhdan v Rossiiskoi Federatsii’ po voprosam klinicheskikh rekomendatsii”.: ofits. tekst. Available at: <http://publication.pravo.gov.ru/Document/View/0001201812250098> (accessed: 12.12.2021). (In Russian)

⁴ Federal'nyi zakon № 323-FZ ot 27 dekabrya 2012 goda “Ob osnovakh okhrany zdorov'ya grazhdan v Rossiiskoi Federatsii”.: ofits. tekst. Available at: <http://www.kremlin.ru/acts/bank/34333> (accessed: 12.12.2021). (In Russian)

⁵ Prikaz Ministerstva zdravookhraneniya RF ot 22 dekabrya 2017 g. N 1043n “Ob utverzhdenii srokov i etapov akkreditatsii spetsialistov, a takzhe kategorii lits, imeyushchikh meditsinskoe, farmatsevticheskoe ili inoe obrazovanie i podlezhashchikh akkreditatsii spetsialistov”.: ofits. tekst. Available at: <https://rg.ru/2018/01/23/minzdrav-prikaz1043-site-dok.html> (accessed: 12.12.2021). (In Russian)

contains information on the development of advanced training programs by a medical worker, ensuring the continuous improvement of his professional knowledge and skills.

In the context of the growing volume of professional information and the need in prompt update of doctor's knowledge, the transition from educational programs of high labor intensity, providing general improvement in one specialty, to short-term improvement programs in actual areas of clinical medicine, of interest to doctors of different specialties, becomes justified. The validity of this thesis is confirmed by the demand for numerous advanced training programs intended for doctors of several specialties, with a labor intensity of 18–36 hours, information about which is currently posted on the portal of continuous medical and pharmaceutical education of the Ministry of Health of the Russian Federation edu.rosminzdrav.ru.

The actualization of ready-made advanced training programs for doctors foresees for their regular updating as new data on the etiopathogenesis of diseases become available and new methods for their diagnosis and treatment appear. Mainly, the reason to update educational programs is the publication of the next edition of clinical guidelines for the diagnosis and treatment of this or that disease approved by the Scientific and Practical Council of the Ministry of Health of the Russian Federation. These documents must be revised at least once every three years⁶. Updating the content of educational programs often requires correcting the ratio of time spent on considering individual topics within the approved forms of information presentation. In addition, the updating of professional development programs also includes the creation of new specialized programs on issues of doctors' greatest interest. To substantiate changes in ready-made and the creation of new educational programs, it is necessary to have information about the level of knowledge of doctors in a particular field and the preferred topic of training. Scientific, Clinical, and Educational Center "Cardiology" was established in 2012. One of the main tasks of the center is to conduct postgraduate and additional professional education of doctors in the specialties of cardiology, functional diagnostics, and general medicine. During the work of the center, dozens of advanced training programs have been developed and implemented, and big number of cardiologists, doctors of functional diagnostics, therapists, general practitioners and representatives of other medical specialties were trained. In our opinion, the learners themselves should be an important source of data on the current needs of doctors in these or that specialized training programs, as well as on topics requiring additional attention and in-depth discussion. To obtain data on the level of training of doctors on certain issues of diagnostics and treatment of cardiovascular diseases, we use the method of anonymous questioning. The anonymity of the respondents makes it possible to expect that the information received from them corresponds to real practice. A survey of doctors was carried out before the start of training; 200–300 specialists took part in each survey. The results of these studies are presented in previously published articles. Below we will comment on the application of the data obtained through the questionnaire to update the educational programs. In our opinion, conducting such surveys with a systematic approach to preparing a questionnaire and analyzing respondents' an-

⁶ Federal'nyi zakon ot 25 dekabrya 2018 g. N 489-FZ "O vnesenii izmenenii v stat'yu 40 Federal'nogo zakona 'Ob obyazatel'nom meditsinskom strakhovanii v Rossiiskoi Federatsii' i Federal'nyi zakon 'Ob osnovakh okhrany zdorov'ya grazhdan v Rossiiskoi Federatsii' po voprosam klinicheskikh rekomendatsii": ofits. tekst. Available at: <http://publication.pravo.gov.ru/Document/View/0001201812250098> (accessed: 12.12.2021). (In Russian)

swers, allows to obtain information on the level of training of doctors in particular areas of professional activity, to identify those sections of ready-made programs that require updating, and to determine which specialized advanced training programs are the most important at the present time. Our first survey was conducted in 2016 in order to clarify the attitude of doctors to the main aspects of primary prevention of cardiovascular diseases using statins and to test knowledge of the basic points of the current Russian recommendations for the diagnosis and treatment of lipid metabolism disorders in order to prevent and treat atherosclerosis. As a result of this work, a number of aspects have been identified that require more detailed discussion in the framework of professional development programs for doctors. For example, it was found that physicians in a significant proportion of cases have a misconception about the target levels of lipids and the critical levels of therapy safety indicators, the achievement of which is considered a criterion for interrupting or stopping statin therapy, and also often show excessive alertness about the risk of statins' side effects development [3]. In order to eliminate these shortcomings in the training of doctors, a labor intensity of 36 hours advanced training program "Correction of Dyslipidemia in Patients with Resistance and Poor Tolerance to Lipid-Lowering Therapy" was developed and implemented. The second survey was devoted to the study of doctors' views on the main aspects of the use of antiplatelet agents [4]. As a result of the study, it was found that doctors often do not follow the recommendations for a balanced approach to the use of acetylsalicylic acid in patients without clinical manifestations of atherosclerosis. The study revealed a low level of knowledge of doctors about combination antithrombotic therapy, in particular in patients with atrial fibrillation who underwent acute coronary syndromes and percutaneous coronary interventions. A later study using a questionnaire technique was devoted to the study of doctors' knowledge of the basic provisions of clinical guidelines on the use of oral anticoagulants, and was aimed to clarify the reasons for their non-compliance to these provisions. [5]. This work made it possible to identify gaps in the training of doctors in determining the indications for prescribing oral anticoagulants to patients with atrial fibrillation, assessing the risk of thromboembolism, and conducting combined antithrombotic therapy. The study showed that doctors have an excessive alertness about possible hemorrhagic complications, which forces them to prescribe an anticoagulant in a reduced dose, resulting in the reduction of treatment effectiveness. The data obtained in these two surveys served as the basis for the development of a advanced training program for doctors "Antithrombotic therapy in the practice of an internist" with a labor input of 36 hours. Training in this program envisages detailed discussion of indications, contraindications for and specific antithrombotic therapy regimens, the reasons for changing therapy regimens in various clinical situations, the efficacy, and safety of the use of drugs that affect hemostasis.

Another survey was devoted to the study of doctors' adherence to recommendations on the diagnosis and treatment of arterial hypertension [6]. As a result of this work, it was found that doctors do not give due weight to the cardiovascular events risk stratification in patients with arterial hypertension and are not sufficiently aware of the possibilities and limitations of the use of antihypertensive drugs combinations. The results of this study were taken into account for the development of a number of professional training programs, e.g., "Algorithms for Examination and Management of Comorbid Patients with Arterial Hypertension", 18 hours long, intended for young doctors who have undergone primary accreditation in the field of general medicine. Also, the survey data were taken

into account during the next update of the advanced training programs for cardiologists “Management of patients with high cardiometabolic risk” and “From arterial hypertension and dyslipidemia to chronic heart failure: modern technologies to reduce cardiovascular risk” (both programs have a labor intensity of 36 hours). In 2020, taking into account the epidemic situation, a survey of doctors dedicated to the study of doctors’ knowledge of the basic provisions of clinical guidelines for the diagnosis and treatment of chronic heart failure was conducted online. Unlike the face-to-face questionnaire, with an online survey, it is impossible to exclude the respondents’ appeal to literary sources. Therefore, the questions of the questionnaire were formulated in such a way that the respondents did not seek to show a high level of knowledge of clinical guidelines, but gave answers corresponding to their opinion and practical experience. Analysis of the responses to the questionnaire led to the conclusion that in their daily work, doctors do not actively prescribe mineralocorticoid receptor antagonists to patients if indicated, do not fully implement the rules for titration of angiotensin-converting enzyme inhibitors and beta-blockers, are not inclined to use implantable devices in the treatment of patients with severe heart failure. An article on this research is currently in preparation for publication. The data obtained will be used to update the existing programs “Myocardial Diseases and Heart Failure”, “From Arterial Hypertension and Dyslipidemia to Chronic Heart Failure: Modern Technologies for Reducing Cardiovascular Risk” with a labor intensity of 36 hours, and will also be taken into account when developing a new advanced training program dedicated to the management of patients with chronic heart failure at the outpatient stage of medical care. Despite the fact that the CME system brings to the fore the short-term cycles of professional training, we consider it important to maintain and update the programs of high labor intensity for the following reasons:

- medical institutions and doctors from different regions of the Russian Federation are not equally provided with online training opportunities;
- in real conditions of providing medical care to the population (as, for example, during the peak of the incidence of COVID-19), it is not always possible to give doctors’ training once a year in accordance with the recommendations of the Ministry of Health;
- the level of initial training of doctors differs depending on the work experience, specialty, institution in which the specialist works (out-patient department, hospital, federal center), and other factors.

In our opinion, advanced training programs of high labor intensity, providing for systematic, sequential training in a particular area of clinical medicine, in comparison with short-term specialized programs, make it possible to provide a higher level of training for young specialists, as well as for doctors mastering a new field of professional activity. Educational programs of big labor intensity retain their importance when doctors master new investigation methods within the framework of their specialty. Experience shows that full-fledged mastering of new skills requires expanding basic and acquiring new knowledge, as well as professional training that develops the doctor’s ability to apply the acquired knowledge and skills in difficult clinical situations. Thus, in our opinion, even in the conditions of CME, there is still a need for programs with a labor intensity of 72–144 or more hours. The actualization of programs of big labor intensity is expressed in the periodic updating of educational material, changing the ratio of time spent on discussing this or that topic,

taking into account the basic knowledge of doctors, and correcting the form of training (lecture, seminar, clinical case). The results of the surveys, which were mentioned above, were used to update the programs “Modern algorithms for the management of cardiac patients”, “Diagnostics and choice of therapy for combined cardiovascular pathology” and “Diagnostics and treatment of cardiac rhythm and conduction disorders” (total labor input 74 hours, 90 hours and 144 hours respectively). The results of these studies also were taken into account when updating advanced program “Cardiology” (246 hours of work), which until the end of 2020 was a program for “certification” (or general improvement program, if you use outdated terminology), and a professional retraining program in cardiology.

The efficacy of doctors’ training using updated programs was confirmed by the results of the final testing: the share of correct answers to test questions was more than 80 %, which in general significantly exceeds the results of an anonymous survey. Thus, the use of data from anonymous questionnaires of doctors on actual aspects of the specialty makes it possible to ensure the compliance of advanced training programs with the modern needs of the healthcare system. Identification of the most difficult issues for self-education and their more detailed discussion within the framework of short-term advanced training programs allows achieving a high level of doctors’ training. Conducting surveys on the same topics of diagnostics and treatment of cardiovascular diseases in a few years will make it possible to assess the dynamics of doctors’ knowledge of the main provisions of clinical recommendations and the change in adherence to the implementation of these provisions in everyday clinical practice.

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