Distance Education Technologies in the Training of Highly Skilled Medical Personnel

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ABSTRACT

Modern information and communication technologies in higher educational institutions allow more effective organization of medical workers professional improvement. The presented work is devoted to consideration of opportunities how to use distant learning in the course of training of healthcare workers. Distant learning in medicine has obvious pluses. Medical workers not only increase qualification according to significant issues of medical practice, but also have an opportunity to bring level of the vocational training to demanded accreditation indicators. There is interdependence between distant educational technologies in medicine and increase of productivity of rendering medical services. Continuing medical education assumes module curriculum, according to an individual plan of training. Within the programs of distant learning provided by a an educational institution of higher learning, development of each educational module is confirmed by receiving a positive evaluation by testing, and paper writing on the offered subject. The level of training is also checked by attendants' ability to solve clinical cases and by questioning and oral discussions. Distant learning according to the programs provided by public organizations includes tests at the end of each educational module. Within full-time tuition for course attendants, conferences, round tables discussions and seminars are held. The developed and approved technology of professional development is presented in the article, the difficulties connected with distant learning of medical workers are specified, perspectives of the organization of distant learning are analyzed and necessary conditions for training of highly skilled medical workers are considered.

Keywords: distance educational technologies, medicine, health care, distance learning, professional improvement.

For the last two decades computer and information technologies have become an everyday reality of people and their professional activities. Computers are used in different spheres – science, industries and at home. Computers help to process, store, exchange information, model natural processes and mathematic objects. It cannot but demonstrate a growing importance of information technologies and broadening of their implementation in everyday life [1, 2, 4].

Current information and communication technologies used in educational institutions help to organize a continuing education for the specialists in natural sciences and humanities [12].

Implementation of IT in education allows making a learning process effective stimulating creativity and research potentials of the learners [11].

Continuing education is the system of gaining new knowledge, skills that improve professional activities. In other words, this system is an obligatory condition for professionalism improvement and broadening of specialists/ competence. Continuing education is very important for healthcare providers. Medicine is dynamically changing. New knowledge on diseases, their diagnostics and treatment appear new medications are being tested and approved in medical practice.

Continuing education can be performed full time, part time on an individual schedule and simultaneously with work [8]. In medicine, professional training combined with work is very important.

According to the Labor Law of the Russian Federation (article 196), and the decree of the Ministry of Public Health on August 03 августа 2012 г. № 66н «On the order and duration of continuing education for health and pharmacy care providers" an employer is to guarantee to organize continuing education for all medical personnel at least once in five years [7]. Healthcare workers without a specialist's license or a certain qualification have no right to provide medical services. According to the Labor Law of the RF (iss. 3 p. 1 art. 81), insufficient qualification of a medical worker or occupation inconsistent with qualification revealed during attestation may be the reason for laying out [10].

Continuing education system in medicine has its pluses. It allows gaining new knowledge without going away to special educational institutions that are usually located in large university centers. It cuts down or significantly decreases financial losses. Distant learning helps medical workers to renew knowledge, to receive new information on diseases, their diagnostics and treatment. The education becomes continuing going simultaneously with work. Medical workers implement new knowledge in their clinical practice. At the same time, taking into consideration a severe shortage of doctors and nurses such system of continuing education does not impede the functioning of medical institutions.

There is interconnection between medical continuing education and medical service efficacy. The studies of I.S. Rodikova show that IT technologies in a combination with pharmacological support algorithm in emergencies increased 1.7-time efficiency of hypertension crisis treatment. In addition, the number of hospitalization decreased 2.5 times, repeated calls for acute coronary syndrome dropped down 1.4 times, a number of lethal cases decreased 1.8 times [9].

The system of distant learning has been functioning in the Far Eastern State Medical University since 2009. The first training courses were organized and conducted under a supervision of Professor Voronina N.V.

At present qualification improvement by distant learning is conducted on for-profit basis. The most active departments participating in continuing education programs are therapy and preventive medicine, public health and healthcare, psychiatry and narcology, pharmacy organization and economics.

Healthcare workers not only improve their qualification but also raise their professional knowledge and skills to the requirement of accreditation indexes. Distant learning helps to provide the course attendants with the information on all the requirements to healthcare providers.

At the same time many continuing education courses attendants prefer a full time education. There are several reasons for it. First, many doctors consider continuing education as an additional "vacation" being overloaded at work. Second, contact hours with faculty members help to receive explanations and comments. Third, distant learning is assumed by many doctors to be an additional pressure during working hours.

Since December 2013, the Far Eastern Medical University has started a Pilot project on continuing education [6]. Two departments: therapy and preventive medicine and pediatrics with the course of neonatology of the continuing education faculty are involved in the project. The latter is based on a module principle when training is scheduled individually for each attendant.

Figure 1 demonstrates the system of continuing education that has been worked out and is being tested in our university.

After placing a request for training, an attendant receives the following documents: "appointment blank" a contract on educational services provision, consent on personal data processing. Three sides sign a contract: an attendant, a medical institution and the university. It is valid for one calendar year.

The documents are filled in by an attendant and are submitted to the faculty of continuing education. Personal data are installed into a computer database of the FESMU and an attendant receives a personal code for an access to the portal. He/she has to register at the site of Coordination Counsel on the development of continuing medical and pharmaceutical education to get an individual code allowing working with educational modules of public organization. (www.sovetnmo.ru)

The supervisor of a training course compiles an individual curriculum. It comprises 114 credits out of which 36 credits cover the educational programs recommended by public

educational institutions. The program includes two parts: full-time and distant provided by the university and by public professional organizations. .

After filling in all the necessary forms and making up an individual curriculum, a faculty member e-mails educational modules to course attendants. Lectures are delivered off-line. However, they are intended to be presented on-line.

Each educational module is supposed to be learned when a good grade is received. Knowledge level is checked by tests and a written work on suggested subjects. During full time education, know ledges are also evaluated by clinical tasks and questioning. Distant training according to the curricula approved by public organizations includes tests after each educational module. In the framework of full time training conferences, round table discussions and seminars are conducted.

A test is passed if an attendant gives 70% of correct answers. If the result is lower, a test has to be made one more time. Clinical tasks or case studies and questioning are assessed as "passed/ not passed". After a training course of 144 hours and passing all tests and other evaluations, an attendant takes an exam on all the studied material. If everything is successful, an attendant receives a certificate on qualification improvement. If necessary, a certification examination may take place and after it, a certificate of a specialist is given.

During computerized distant learning, each attendant can contact a mentor or a course supervisor as well as experts who provide services in continuing education. All the experts have scientific degrees and had fellowships in leading Russian medical centers.

According to the standards of continuing medical and pharmaceutical education for primary care physicians and pediatricians, public organizations work out components of educational programs: conferences, round table discussions, master-classes, trainings, seminars. All these events have individual codes, which attendants receive after registration. It allows doctors adding information to the educational portfolio on the site of the Coordination Counsel. This site also has informational and educational manuals included into individual curricula of attendants.

To monitor the quality of educational services the dean's office of the continuing education faculty anonymously questions attendants and their employers.

Transition to a distant training within the framework of this pilot project has revealed several difficulties connected with medical personnel qualification improvement. Many attendants have very low computer skills; they do not know how to use –mail, Internet and so on. That is why many doctors of older age express no wish to participate in distant learning programs.

We should emphasize it one more time that low computer skills or their total absence is the most serious problem that hinders implementation of distant learning programs for healthcare providers. Although there are computers at work places and more people are learning how to use them, only from 59,1% to 72,7% (instead of necessary 90%) of medical workers know how to use a computer [3, 5].

One of the perspective of distant learning must become a creation of unified information system with Russian and foreign medical universities and schools. It will help to exchange information, make up a database of tests, and organize interactive conferences, lectures and training courses.

Only if all the training programs attendants have a good computer skills and proficiency, a medical continuing education will become effective and successful. This goal may be achieved with the help of short training courses. A more complicated objective is setting up of universities' computer network that will help to organize unified information and educational space where conferences and seminars can be conducted.

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