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José María Pino Suárez 400-2 esq a Lerdo de Tejada. Toluca, Estado de México. 7223898475
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TÍTULO: La formación continua de los médicos: problemas y posibles soluciones.

AUTORA:

1. Dra. Olga V. Ivanchuk.

RESUMEN: Las condiciones modernas del desarrollo de técnicas y métodos del tratamiento y diagnóstico de enfermedades exigen que el médico perfeccione sus conocimientos constantemente; sin embargo, hoy día los métodos tradicionales de ejecución de los programas de desarrollo de aptitudes no satisfacen las necesidades de los posibles participantes de cursos de capacitación. Al entender este hecho, el autor del artículo resuelve el problema de la búsqueda de enfoques teóricos para el desarrollo de un ambiente educativo informático que contribuya a la realización de la formación continua de los médicos.

PALABRAS CLAVES: formación continua, el ambiente educativo informático en una universidad médica.

TITLE: Continuing education of doctors: issues and possible ways of solving them.

AUTHOR:

1. Dra. Olga V. Ivanchuk.

ABSTRACT: Modern development conditions of treatment techniques and methods of treatment and diagnosis of diseases require doctors to constantly improve their knowledge. However, traditional methods of implementation of advanced training programs nowadays do not satisfy the requirements of potential trainees of advanced training courses. Taking into consideration this fact, the author of the article solves the problem of searching the theoretical approaches to the development of information educational environment of implementing doctors' continuing education.

KEY WORDS: continuing education, information educational environment of a medical university.

INTRODUCTION.

Opinions of numerous politicians, scientists and public figures of the global society are in line with the issues of the necessity of organizing continuing education aimed at advancing professional knowledge and skills according to the modern requirements. That's why lately there has been registered an outburst of the quantity of different educational centers that offer advanced training courses.

Traditionally, a solid place in this area is occupied by additional professional education institutions organized at higher educational institutions and research centers. Medical universities are not an exception. The content of continuing education courses for doctors is based on fundamental biomedical knowledge. However, for many trainees, the territorial accessibility of educational and training centers is a fundamental feature when choosing advanced training courses. This fact forces medical universities and research centers in the field of medicine to apply distance learning technologies.

It is necessary to note that nowadays the modern biomedical knowledge isn't a firm and static dogma. The development of sci-tech opportunities determines the dynamics of their rapid renewal in the field of methods, means of treatment and diagnosis of a patient. In this connection, according to the

Minister of Health of the Russian Federation V. Skvortsova, one of the priority tasks of the Russian healthcare system is the creation of conditions for the continuing education of doctors in order to improve their skills based on the intensive introduction of new information communication technologies in the educational process of medical universities, research centers, etc. Therefore, creation of information educational environment of a medical university, as means of advancing doctors' experience, is one of the most important components of the implementation of measures to develop informational support of the healthcare system in Russia.

Creating the information educational environment of a higher educational institution is not innovative; however, for medical institutions that are mostly closed for information, this object is innovative.

Analysis of information educational environments of higher medical institutions that was held in the framework of the given research, showed that in most cases the given environments:

1) Don't have dynamics of updating the information educational sources.

2) Lectures presentations that reflect the main theoretical material, are composed without the consideration of psycho-pedagogical requirements for such materials.

3) There is lack of video materials, virtual and model experiments, that demonstrate practical actions of a doctor.

4) As a rule, there is lack of possibility of videoconferencing with a student. Thus, a fair question (research problem) arises: what should the information educational environment of a medical university be, given that its realization would promote efficiency of the process of advanced training of medical personnel in the modern socio-economic conditions?

DEVELOPMENT.

The goal of the research.

The goal of our research was in searching theoretical approaches for developing the model of information educational environment of a medical university that promotes effective process of doctors' advanced training.

Materials and research methods.

For developing such information educational environment, we applied the great accumulated experience in the implementation of milieu approach in the system of higher professional education (Yasvin[1], S. Zenkina[2], E.Polat, M.Bukharkina, M.Moiseeva [3], S. Schennikova, A.Teslinova, A. Chernyavskaya [4] and others). Generalization of researchers' works and the practice of including universities into educational process allowed us to develop conceptual notions that define the single intention of modeling the information educational environment as means of advancing qualification of medical personnel and the core that constitutes it:

1. Theoretical bases of developing information educational environment as means of advancing doctors' qualification are:

a) Methodology of milieu approach that allows to create the model of information educational environment, that includes invariant structure (target, concept, processual, hardware and software, monitoring).

b) Didactic principles of online learning that regulate general approaches to organizing education with the implementation of information communicational technologies.

c) Harmonious combination of differentiated and practically oriented approach that allows to consider needs and peculiarities of trainees of advanced training courses as well as to reset the education emphasis from theory to practical application of knowledge in doctors' professional activity.

2. Information educational environment of a medical university in modern conditions, to our mind, must be presented as a dynamic object instead of a static one. This object will allow using all the latest knowledge in the field of disease treatment and diagnosis as well as reaching hardware and software means, information communicational technologies for forming among students a complex of theoretical knowledge and methods of their application for solving professional tasks. Thus, while developing information educational environment the processual (organizational-methodical) component of an environment must dominate the conceptual one.

3. Methodical support of a processual component of information educational environment of a medical university must be developed on the bases of a milieu approach and must have the form of a complex of situational tasks modeling a doctor's activity and allowing to demonstrate the application of theoretical knowledge and form the skills of their solving among students.

4. Hardware and software means of information educational environment of a medical university while implementing online learning for advanced training trainees must provide feedback that allows estimating the range of the adopted theoretical knowledge and the correctness of applying practical actions while solving situational tasks.

5. Monitoring component of information educational environment as means of advancing medical personnel qualification, to our mind, must allow fulfilling the diagnostics of necessities and peculiarities of a potential trainee of advanced training courses for choosing the best possible program mode or for developing the individual learning strategy.

We reiterate that the given concept expresses only the overall vision of the issue of implementing advanced training programs. There's no doubt that the contents of information educational environment of a medical university must be defined by the requirements (needs) of potential doctors-trainees. Thus, the obtained data supported by theoretical bases of higher professional school pedagogics and the practice of creating information educational environments, allows developing

information educational environment of a medical university as means of advancing qualification of doctors. Therefore, the goal of the first stage of our research was revealing requirements of potential trainees of advanced training courses.

The research design consisted of a qualitative and quantitative assessment of statistical data that allowed implementing the goal of the first stage of the research. An anonymous sociological survey of doctors from Astrakhan and Astrakhan region was held. The survey included doctors who wished to complete advanced training courses or who were interested in organizing such courses or who have recently taken advanced training courses.

The last group of doctors wasn't chosen by accident. In our opinion, the obtained data will allow estimating the main problems of the existing methods of organizing advanced training courses. Thus, according to the results of the study, it was determined that the structure of respondent trainees-doctors (potential ones as well as those who had recently taken advanced training courses in a medical university) is as follows (fig.1): from 1 to 5 years of professional experience – 24,6%, from 6 to 10 – 28,2%, from 11 to 15 – 22,3%, more than 15 – 24,9%. Comparative analysis of to the surveyed groups represents almost even distribution of doctors according to the groups that characterize work experience in medical state and non-state institutions.

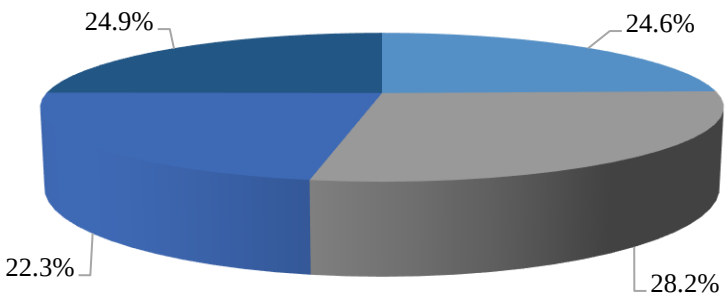

Fig. 1. Distribution of respondents according to the length of service

The survey questions that allow estimating the need of taking an advanced training program were answered positively by most respondent doctors (89,1%). They were interested in such courses. Among the basic issues they would like to consider in the course of study, there can be distinguished the following groups that are presented in a diagram (fig.2). These issues concern:

1) New medicine and peculiarities of its application (25,6%).

2) Pathologies of the course of certain diseases and modern methods of their diagnosis (18,9%).

3) Modern hardware methods of treatment and diagnosis (17,3%).

4) Organizing and holding video tutorials with leading specialists of advanced medical scientific research centers for patients and doctors aimed at experience exchange (16,1%).

4) Disease prevention (8,8%).

5) Modern medical information systems and peculiarities of their work (7,4%).

5) Psychology of communicating with the patient (5,9%).

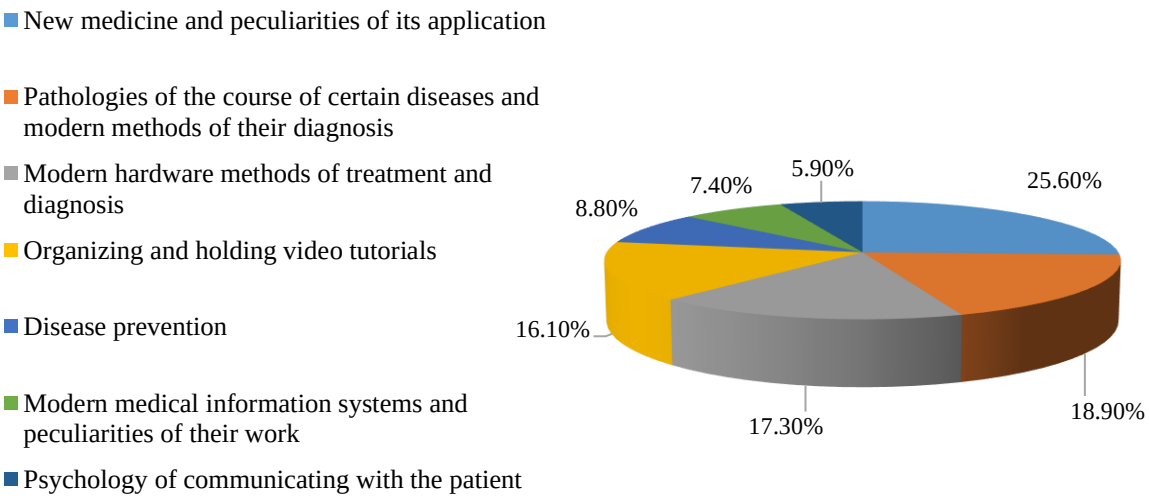

Fig. 2 Issues that attandees would like to consider during the advanced training courses.

We should separately note that less than a quarter of respondents (23,5%) are interested with modern information-communication technologies and medical information systems, which may be applied for increasing the efficiency of the organization of health care system.

Moreover, most respondents paid special attention to the practical implementation of the theoretical constituent of any of the emphasized questions, i.e., doctors would like to have an up to date understanding of the topic, operating algorithms, as well as to see their practical application and to act under the authority of a leading specialist in this field. The given aspect wasn't emphasized by respondents by accident. Like that 46,2 % of doctors had difficulties in applying the knowledge obtained during the advanced training course as well as operating algorithms or had doubts in correctness, 37,9% of respondents could partially apply the obtained knowledge in practice, and 15,9% could use the knowledge confidently.

As preferred forms of taking advanced training courses respondents named the following types indicated in fig.3. As is seen in the diagram, the preferred form is an intra-extramural form of study as well as distance learning forms and tutorials using information communication technologies on the bases of Astrakhan state medical academy as well as centers Moscow based centers.

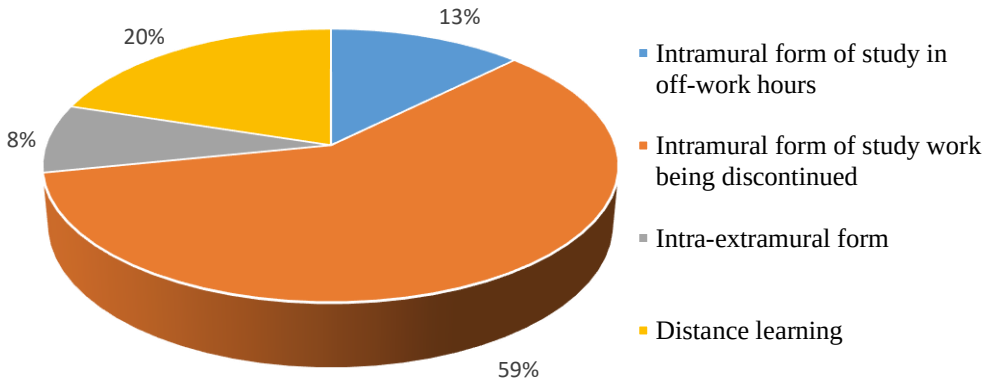

Fig 3. Preferred forms of taking advanced training courses.

It was established that as the indicated needs (wishes) related to updating the information educational environment of a medical university, the respondents defined:

1) Need of constant updating of theoretical material according to the latest achievements of biomedical studies.

2) Application of virtual and/or model presentation of the studied phenomena or processes during practical classes.

3) Possibility of access to scientific medical data.

4) Differentiating methods of teaching doctors considering the work experience, requirements and time possibilities, i.e. considering individual requirements of trainees.

It was considered important to find out whether there is dependence between the obtained indicators (types of issues that the trainees would like to consider during advanced training courses, forms of organizing advanced training courses, etc.) and the length of professional service of doctors.

All the respondents participating in our research made up the general population, from which a random population of 278 doctors was compiled using random non-repeating sampling. Mathematical statistics apparatus was applied for defining the dependence between some of the revealed indicators and work experience and for estimating its authenticity with the help of χ^2 criterion. Thus, there is dependence between:

1) A doctor's work experience and need of applying information communication technologies and information educational sources aimed at advancing qualification, i.e., for the employees of medical institutions with work experience up to 10 years the application of the given technologies and sources is an important indicator ($\rho<0,05$).

2) A doctor's work experience and need in updating theoretical material according to the latest achievements of biomedical researches, i.e., doctors with work experience more than 15 years are quite critical of the learning material often express dissatisfaction with outdated information ($\rho < 0.05$).

CONCLUSIONS.

There is no doubt that the implementation of the given notions requires fundamental changes in the system of advancing qualification of a university, but still, the practice of implementation gives positive effect.

Partial introduction of the formulated approaches in the form of organizing the entrance monitoring, applying information communication technologies for distant tutoring of trainees, systematizing presentations of lecture material according to psycho-pedagogical requirements allowed Astrakhan state medical academy increasing the trainees' level of satisfaction with advanced training courses (from 37,8% to 59,1%) and amplify their number approximately by 12,3%.

Information educational environment of a medical university may be an effective means of increasing qualification of medical personnel, while the conceptual approaches developed by us can be implemented in any university considering its specifics.

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DATA OF THE AUTHORS.

1. Olga V. Ivanchuk. Doctor of Education, Associate Professor, Head of the Department of Physics, Mathematics and Medical Informatics of Astrakhan State Medical University, Astrakhan, Russia, E-mail: Olgaiva.2401@gmail.com

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