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## ЕЩЕ РАЗ — О СТАТУСЕ ЭТИЧЕСКИХ КОМИТЕТОВ

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В связи с активным внедрением в медицину новых биотехнологий, остро стоит вопрос об этических рисках их применения. Поиски ответов на него входят в предметное поле биоэтики. Эта наука должна взять на себя не только оценочные и объяснительные, но и прогностические функции. Реализовать их могут специально организованные социальные субъекты этического регулирования – этические комитеты. Но их статус в России не легитимизирован, единой системы таких комитетов, организованной по сетевому или иерархическому принципу, нет. Необходимо предпринять теоретические и практические усилия для определения и закрепления статуса этических комитетов и активного использования их рекомендаций.

Ключевые слова: биотехнологии, этические комитеты, юридические документы, кодексы, этический прогноз.

#### ONCE AGAIN – ON ETHICAL COMMITTEES STATUS

#### N. N. Sedova

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Due to new biotechnologies being actively integrated in medicine, their application is becoming an issue of ethical risks. The field of bioethics searches for answers to these questions. This science must perform assessing, explanatory and prognostic functions. These are only special social bodies of ethics regulation – ethics committees – who are able to fulfill these tasks. Though, their status in Russia has not been legitimized yet, there is no single system of such committees organized to the principle of a network or hierarchy. It is important to take theoretical and practical efforts to define and establish the status of ethics committees and actively implement their recommendations.

Key words: biotechnologies, ethics committees, legal documents, codes, ethical prognosis.

It is well-known that there are problems of minor importance in bioethics. Nevertheless, social demands form a certain hierarchy of ethical risks that make the society worry and bioethics must respond to them. At present, new biotechnologies that are first of all implemented in medicine refer to such risks. Implementation of new biotechnologies requires: Prognosis of social consequences Special measures of social control over the rights of test subjects and obligations of investigators performing clinical researches [1].

There are no universal mechanisms to accomplish these requirements, so far. Legal regulations are only fragmentary. It is only in early 2019 when a document appeared that prescribes permissive and restrictive procedures of researches into a genome. According to the Order of President of the Russian Federation of November 28, 2018  $N_{0}$  680 «On development of genetic technologies in the Russian Federation» the Decree of the Government of RF of April 22, 2019  $N_{0}$  479 «On approval of the Federal scientific and technical program of genetic technologies development

for 2019–2027» was passed. In this program the main attention was paid to safety while developing and applying these technologies. Page 12 of the documents reads: «The most important task is to provide safety on application of the results of biotechnological researches. A control system over activities of the companies who are involved in such researches, as well as assessment of risks on application of genetic technologies is a necessity» [2]. It is evident that in order to provide such control, it is necessary to rely on the corresponding legal documents. Though, they do not exist. Moreover, the program does not contain any clarifications who and how this supposed control can be exercised.

At the same time, the rules of ethical examination as a control mechanism were established in clinical researches long ago. The mechanism of ethical examination and its subjects (independent ethical committees) is described both in the above mentioned two laws, and in the National standard of RF GOST R ISO 14155 – 2014 «Clinical researches. Appropriate clinical practice». As for the Program,

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it is only in p. X «Possible risks» the wording «ethical reasons» is mentioned (?). Not a single word was said more about the ethics of researches into genome. Ethical risks of application of examination results are ignored, but is it possible to demand development of any legal regulations without definite ethical norms? This would contradict the order of law development. Consequently, it is necessary to legitimize the mechanism of ethical examination, spreading the standards described in federal laws № 61-ФЗ of 2010 and № 80-ФЗ of 2016 as well the national standard RF GOST R ISO 14155 of 2014 to all tests and implementation of new biotechnologies. It goes about independent ethical committees who are the main subjects of ethical examination of development and implementation of new biotechnologies. As in all abovementioned laws the items about ethical committees are identical, we can speak of the same model. What are its advantages and disadvantages?

Advantages. The regulation on the independent ethical committee exactly follows international requirements. There are many documents of this kind at the international level and they do not differ much. We can refer to the Guide for Research Bioethics Committees. The Guide was published by United Nations Educational, Scientific and Cultural organization (UNESCO) (Department of Science and Technology Ethics) in 2005 in Paris. We published it in our journal [3]. As our local ethics committees were set up in collaboration with international companies (pharmaceutical ones in the first line), they were formalized in compliance with the requirements of all members of this collaboration. Following international standards allowed to broaden the communication research field in medicine. Besides, it made it possible to improve the quality of researches and minimize risks for a test subject.

Disadvantages. Single rules to establish the committees do not exist. Usually, they are established to the order of the head of the department or organization where researches are done. Quite often they exist only for the period of the research and if a new contract is not concluded, they are dissolved. Besides, such approach does not allow to create a single database of these committees in spite of numerous attempts. At present, there are pages of ethics committees on the web sites of medical universities and research institutes but the content differs because of the lack of uniformity.

One more disadvantage is the absence of education system for the ethics committees members. The problem is that due to obligatory rotation new members join the committee regularly. Highly probable that there must be an adequate model of information sharing with them that unfortunately does not exist so far.

Rules for setting-up, functions and SOPs for ethics committees in medicine were developed long ago and are aimed at researches in pharmacology. Nowadays, the scope of ethics examination application must be much wider, as technologies to convert living and non-living materials require a new level of assessment [4]. So, research into genome is associated with an assessment *vector*. It is important to make conclusions from the future data that do not exist yet. In such cases decision is made on basis of a large data array from the past. As for new biotechnologies, they do not have the past data array. For this reason a prognostic function of the ethics examination becomes vitally important.

To overcome these difficulties is possible if the status of independent ethics committees is legally secured. It may be formalized by changing the Federal law № 323-ФЗ of 2011, adding an article about ethics committees. It may also make sense to develop a Code of Ethics in medicine which could include moral standards in all fields of medical activities - from the primary medical aid to new biotechnologies. In the future, generalizing the experience of the existing laws application in medicine and health care that have a differentiated character, it may be reasonable to develop and approve a legal document – the Code for human rights protection as a biological species, where moral norms would be presented as obligatory and reinforce in the public conscience. It corresponds to the conformity of ethics and laws development and are equitable to the interests of all members of the society.

We hope that our readers will express their opinion on the status of ethics committees in up-to-date Russia and send their suggestions how to strengthen it in medical practice to the editorial office

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### СЕМАНТИЧЕСКИЕ АЛГОРИТМЫ БИОЭТИКИ

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В статье авторы рассматривают морально-нравственные и государственно-правовые алгоритмы биоэтики как общие методы решения актуальных проблем в здравоохранении, которые отражают желание граждан жить и действовать в здоровом состоянии. Специфика биоэтической идеологии в современном здравоохранении состоит в требовании соблюдения алгоритмов сохранения жизни вообще, сбережения человека и укрепления его здоровья от разного рода негативных обстоятельств, преднамеренного или случайного технологического воздействия. С целью глубже обозначить идеалы и принципы биомедицинской этики, авторы обращают особое внимание на естественное (биологическое) начало человека. Отмечается, что коэволюционный императив биоэтики призван побуждать у ученых-медиков и клиницистов стремление к преодолению социальных, экономических и политических конфликтов. Материал представлен на английском языке, что представляется актуальным в контексте растущей популярностью российское высшего образования среди иностранных студентов, а также нехваткой учебно-методической литературы на иностранном языке. Материалы статьи могут использоваться при разработке рабочих программ, лекционных и семинарских занятий по курсу «Биоэтика».

*Ключевые слова:* коэволюция, антропоцентризм, гуманизм, биосоциальная система, биоцентризм, алгоритм, биоэтика, здоровьесбережение, жизнь и смерть, императив.

### SEMANTIC ALGORITHMS OF BIOETHICS

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In the article the authors study moral and legal algorithms of bioethics as universal methods of solution of topical problems in the health care system which reflect a wish of citizens to live and act healthily. Specificity of bioethical ideology in the modern health care system consists in the demand to follow the algorithms of preserving life in general, protection of a man and protection of his health from different negative circumstances and deliberate or occasional technological influence. In order to bring to light the ideals and principles of biomedical ethics the authors pay special attention to natural (biological) origin of a man. It is stated that co-evolutional imperative of bioethics is to push scientists-medicals and clinicians to overcoming of social, economic and political conflicts. The article is presented in English that is topical in the context of growing popularity of the Russian higher education among foreign students, as well as the lack of educational literature in foreign languages. The material of the article can be used in designing work programs, lecture and practical courses of «Bioethics».

Key words: co-evolution, anthropocentrism, humanism, biosocial system, biocentrism, algorithm, bioethics, health care, life and death, imperative.

Algorithms of bioethics are the system of principles and rules of behaviour of medical specialists and scientists for effective solutions of life tasks of and health preservation. Today moral-rectitude and statelegal algorithms as general methods of solvation of topical problems in health care system reflect a natural wish of citizens to live and act in a healthy state. They

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are fixed in constitutions and laws being a humane pivot of philosophy of health care. This philosophy demonstrates growing interest to their rights and responsibilities expressed in the algorithms of bioethics. A specific character of this science as the philosophy of health protection aims at their protection from risky scientific and biomedical experiments. Bioethics, addressing conscience of scientists and medical specialists, awakes in their consciousness the feeling of personal responsibility of their patients' treatment and experiments on animals and people.

Bioethics whose nucleus has become ethicallegal algorithms in medicine and society in general, defines problems which are connected with finding out specificity of new universal intellectual-moral values and humane principles in scientific and clinical activity, that allows to solve the matter about a man's right for life and death effectively. Bioethics forms a new weltanschauung and way of thinking in medicals' activity. Fundamental concepts of traditional ethics fulfil the task to use philosophical-methodological principles for bioethics. It concerns proper application of those universal moral-ethical values that are essential for modern scientists and medicals' orientation in their professional activity.

In the conceptual structure of bioethics traditional ethics occupies a special place. Being an independent field, it highlights the idea of reverence for life in general and human life in particular. Bioethics deals with systemic research of a human consciousness and behaviour from the point of view of moral values and principles within the frames of sciences about life and health preservation. Its object is a humane attitude of the society and medicals to wildlife and especially to a man, his life, death and health. Ethical dilemmas of medicine are not something absolutely new. They were revealed when a small group of doctors headed by Hippocrates in the 4<sup>th</sup> century B.C. signed a moral code of medical practitioners which is an oath for modern doctors up to nowadays. But unlike those days when doctors had limited possibilities to influence a clinical course, ethical canons are absolutely different nowadays.

Modern doctors can interfere into fundamental processes of life and death. Moreover, bioethical problems of medicine are not considered as the exclusive prerogative of professionals only. If traditional ethics was and is the branch of humane philosophy, bioethics includes legal problems as well, which are used in medical and scientific practice. All kinds of bioethics can be called as applied or professional ones because bioethics is based on the idea that some solutions of scientific and applied problems demand more delicate moral actions than others and these actions can influence making personal professional decisions.

Bioethics approximated comprehension of aggravation of moral problems in the present day development of the mankind and comprehension of personal responsibility of medical specialists and scientists for their activity. In modern health care system in the result of rapid development of science and technologies and implementation of the discoveries into medicine there have appeared difficult moral-legal problems. These problems have reflected unusual situations in medicine connected with genetic interference into a man's life and with interference into the processes of reproduction. We can suppose that evolution of scientific-technical development in this connection will follow the way of global problems of preserving life and health solution.

While comprehending some key problems of bioethics as new moral-legal teaching in health care system, we shouldn't lose sight its main priorities in medicine, biomedicine and applied medicine, that is intellectualmoral potentials, moral-legal norms, socio-cultural values and humane demands, weltanschauung and methodological attitudes of modern philosophy. Specificity of bioethical ideology in modern health care system is in the demand to keep algorithms of life preserving, consolidation of a man's health.

The achieved possibilities of modern medicine and medical-experimental science in particular put burning issues for the society and specialists. So in resuscitation science which gives to seriously ill people some hope for an adequate life, there was the need to appeal for public opinion if such interference into a natural course of life is morally and legally justified. Does the patient want to return to life? Advancement of genetic engineering, organs transplantation, biotechnologies which have changed a usual way of life, demands a different definition of constitutional human rights in the spirit of bioethics as new ideology of health care.

In health care there appear new problems which are to be solved right now. Such issues as euthanasia, cloning, transplantation, artificial intellect creation need to be philosophically comprehended. It concerns not a technological aspect of the matter. It's important to clarify the essence of bioethical innovations and possible consequences of interrelations between renewed medicine and traditional humanistic values which constitute the base of human culture, that is civilization of a society and personality. In the conditions of changing natural and social reality, manipulation with mass and individual consciousness, transition from uninterested personal relations to rationallymarket ones there is a need to organize and educate specialists ethically in a new way.

In the modern anthropogenic epoch of scientifictechnical achievements scientists and medicals got into a difficult moral-legal situation. They are creating the things that have never existed before. But such a creation of scientists plays an ambiguous role in people's life. Of course, many things are directed to the good, but not fewer are directed to the evil. Physicists and chemists have given a lot to people in the technical aspect but they have also created thermonuclear weapon, poisoning substances. So microbiologists try to protect people from harmful microorganisms but at the same time they make dangerous bacteriological weapon. A scientific-creative activity

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of scientists, technicians and technologists can't be stopped but can be humanized. That's why the public appeals to the mind and conscience of specialists and try to awake the sense of responsibility for the results of their activity. Appearing of bioethics in a health care system witnesses an absolutely new approach to the human personality, respect of his rights and dignity in the face of death. The nucleus of bioethics has become working out of new principles regarding life and death. Life is understood as the highest selfvalue. It's the matter of common knowledge that biomedical ethics as a moral-legal science about preserving life and health in the sphere of scientific researches in clinical sphere was formed in the 60s of the 20<sup>th</sup> century. For the recent years a philosophic-ethical paradigm has become an algorithm of «reverence for life».

At the first stages of development of medicine the same question concerning the essence of life and the way to make a man happier was put. But there hasn't been such keen moral attitude to life.

To consider life in a new sense nowadays we need some particular combination of its value characteristics in regard to which people are equal to each other on legal and moral levels.

Doctors must be characterized through conscience because the result of their activity and professional competence will determine destiny of other people either patients or their relatives. Any medical specialist must do his best at his work but treat his patient carefully not as an object but as a subject of health improving process. He must be able to explain to the patient what is happening to him and the ways of treatment. In Russian medical practice a philosophical-psychological approach to patients has been existing for many years. In modern natural-scientific and humanitarian education as well as in philosophical-ethical education of doctors such topics as the necessity to keep to new strict moral demands are of major importance.

It's not by chance that countries-members of the EU and some other countries supporting the Universal Declaration of Human Rights of 1948, Convention for the Protection of Human Rights and Fundamental Freedoms of 1950, signed in 2005 the Convention for Biomedicine and human rights. In these documents a qualitative distinction of biomedical ethics from bioethics is underlined. The first mentioned one has a purely corporative character, it considers moral-legal relations existing between medicals and between medicals and patients. Meanwhile humane principles of medical ethics which have been forming for centuries such as mercy, charity, responsibility of medics are not cancelled.

Dialectical unity of biology and bioethics is deduced to evaluating of the innovative character of their manifestation in the health care system. It's necessary to comprehend a socio-humanitarian role of biology in scientific cognition of formation and selfdevelopment of life from the philosophical point of view. Understanding of life and prospective of its development depends a lot on interpreting a subjectivegnoseological status of biology. Since the end of the 20<sup>th</sup> century scientific discoveries and generalization have led to the fact that biology became a thick base of modern scientific natural science. In this respect the 50s of the 20<sup>th</sup> century have become bordering ones. Celebration of the anniversary of Ch. Darwin's book «Origin of Species» showed that uniting of Darwin's idea of natural selection with genetics has led to creation of theoretical foundation for the classical biology and underlined its role and importance in the sphere of innovative movement in medicine.

To comprehend the ideals and principles of bioethics deeper we should pay attention to the biological origin of a man. In ancient times philosophers paid special attention to comprehension of a role and importance of natural origin of a man in his spiritual and socio-cultural life. Epicurus wrote that despite being mortal originally, a man became immortal through consideration of the nature. Such contemplation of the nature liberates a man from fears of gods, destiny and death. Cicero also said that contemplation of your nature is a natural food for souls and minds. People become wiser and their world outlook is wider when they contemplate the supreme.

Modern scientists-biologists always pay their attention to the biological evolution of the mankind. But if for all animals natural selection stands to be the main factor of their evolution, for a man his role is to preserve genepool and to change mutations that do harm to a human health. The result of people's natural selection can be seen on the level of embryo cells. This process was grounded in the scientific decoding by Watson and Creek of the DNA molecular structure and comprehension of its role and importance in transmission of the hereditary biological information. This revolutionary discovery allowed to re-estimate all the material of classical biology.

The task of modern biology concludes complete and detailed description, systematization and classification of structure, organization and behavior structure speaking of all groups of living organisms on the Earth. Researches showed that processes of metabolism in a human body depends not only on hormones but also on nutrition, outer biological environment and geographical conditions.

A scientific-theoretical explanation of the structure, organization and behavioral peculiarities of all living systems on the Earth will let biology go behind the limits of a human biology into the sphere of his socio-cultural life. That's why in creative construction of different forms and kinds of socio-cultural life and activity of people we can't ignore people's natural component – a biological sphere.

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Among biological and socio-cultural concepts of a man, dealing with moral aspects we should mention a concept of biocentrism by M. V. Gusev. This teaching is closely connected with the ideas of modern natural philosophy considering the nature in its integrity. Professor Gusev deprecated division of the nature into 2 parts – a man and his environment, he opposed discrimination of bios against anthropocentrism. One of the most important ideas of biocentrism is the fact that human needs must be satisfied only up to provision of the very dynamic balance of biosphere that a man is genetically adapted to.

It's not by chance that nowadays there is an active struggle for preservation of all biological forms and kinds of life especially of a human life. According to philosophers and scientists it's the highest task of the mankind. Its basic principles are not to contrast all values in a human life to biology. People have always been and are a part of the nature and they can't live and develop without plants and animals. So biomedical ethics, admitting the necessity to cognize the biological nature of a man in order to comprehend its role and meanings in diagnostic, prophylactic and medical actions, puts a task of philosophical-ethical comprehension of biology itself.

According to its definition biology is a science which studies living forms and kinds of self-development of substance, their composition, ways of activity, natural communities, their origin and distribution, interconnection with each other and inanimate nature. If we express the main intention of scientific researches of the role and meaning of modern biology in formation and development of the mankind as well as preserving his health, the most appropriate word combination would be «searching for its originality». This problem is both the most difficult and the most debatable philosophical problem in biology. But one thing is undoubtable – biology is a science about life, its essence and regularities of life phenomena.

Biology deals with description and systematization of scientific facts, relating to life. A biologist deals only with phenomena happening in integral living organisms and a human organism. Great achievements in modern biology and medicine, qualitative changes in clinical activity put a number of new moral-legal demands to different kinds and forms of medical activity in the face of the world public. In resuscitation science gravely ill people can be returned to life and moreover, even people who have survived after clinical death go on living. That's why there has appeared a need to work out strict requirements fixing moral legality of all their practice.

Due to wide proliferation of biotechnologies that have changed a habitual way of life of practical medicine there is a need of a stricter observance of all constitutional rights of a man as a patient in the spirit of modern bioethics as a new ideology of all the health care system. Bioethical ethics balances ethical and legal demands to scientific researches, prophylactic and medical acts in different spheres of biological life of people. Biomedical ethics is a combination of philosophical and moral-legal measures in the field of medicine influencing medicals' consciousness in order to provide control over innovative scientific-creative actions for the sake of life and health preservation.

A society in the technotronical epoch tries to create a system of ideas, principles and mechanisms of a moral-legal character in order to preserve life processes, influencing health of people. Sociophilosophical interpretation of a notion «biomedical ethics» lets us understand and estimate a multiaspect life potential of a present day biology. It shows to health care system specialists and scientists important aspects of modern sciences about living beings and problems of people's health preservation. It is interesting for philosophers, sociologists and lawyers who reflect on professional and moral-legal interrelation of scientists and doctors with patients.

Naturalism emphasizes a man's connection with the nature. It influences consciousness, needs and interests of medicals in their scientific, practical and cultural sphere. And as bioethics is based upon biology, naturalism is apparently of a biocentrical character. It means that biomedical ethics explains to the mankind an absolute value of all kinds and forms of life on the Earth. Beside social philosophers, psychologists, lawyers and medicals dealing with life preservation problems, the problems of biomedical ethics are the matter of interest in biology as well.

One of the key notions of biomedical ethics is the notion of biosocial systems. These systems can be defined as the integration of species of any biological kinds characterized by organization, orderliness and integrity, communication, affiliation between individuals and groups. The notion «biosocial systems» points out likeness, relationship, comparability of human social life and biosociality of other social forms and kinds. So biomedical ethics must contribute to formation of a new view to biological objects with the nontraditional for modern science and medicine sociohumanitarian point of view.

The most important ideas, principles of modern biomedical ethics have turned out to be weltanschauung, axiological, traditionally ethical, legal and political ones. The matter is that biomedical ethics proceeds from the interpretation of a man as a part of single planet biological variety, a product of biological evolution. In the base of biomedical ethics there are ideas of natural philosophy. Biomedical ethics considers variety of life on the Earth to be a single object. This metaphoric wording emphasizes interconnection of people in the society and the society with powerful biological environment, allows understanding of the resistance to the tendency of atomization of a society in the present day world, when some connections disintegrate and turn into some kinds of isolated atoms that are inclined to competence but not to cooperation.



In the conclusion we would like to say that bioethics stands for stimulation of coevolution - a balanced cooperative development of systems including individuals and different ethnic, social, cultural and other groups of the society. A co-evolutional imperative of bioethics must evoke specialists to ty to overcome social, economic and political conflicts. The task is to harmonize the society. In a democratic society which is being built in Russia by the progressive part of the society, we shouldn't lay too many hopes on central bodies of power. Any innovations can effectively develop from ordinary people. In moral-legal social structure and health preserving the key role belongs to bioethics. It's proved by history, searching for the answer to fundamental issues of health protection. Only bioethics can work out qualities which in their total would determine intellectual outlook, civil responsibility of people, degree of moral attitude to yourself and professional service.

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### ХРИСТИАНСТВО И ВСПОМОГАТЕЛЬНЫЕ РЕПРОДУКТИВНЫЕ ТЕХНОЛОГИИ: ПОИСК НРАВСТВЕННО-ЭТИЧЕСКИХ ОСНОВАНИЙ<sup>\*</sup>

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Проблемы ВРТ продолжают быть предметом как медицинских, философских и этических, так и богословских дискуссий среди представителей разных конфессий. Вспомогательные репродуктивные технологии (ВРТ) позволяют приводить в этот мир тех, кто в иной ситуации, без помощи новейших технологий, не смог бы оказаться среди нас; в той ситуации, когда естественный путь прихода невозможен. Но для этого медицина использует методы, которые чужды природе живого и природе человека как биологического вида, в частности. И надо заметить, что именно нравственно-этические нормы, укорененные в религиозном мировоззрении, испытывают наибольшее давление со стороны постоянно нарастающего потока перемен во всех сферах жизни, вызванных ускоряющимся научнотехническим прогрессом и особенно бурным развитием биотехнологий и особенно ВРТ. Можно выделить следующие проблемы ВРТ, которые, так или иначе, рассматривают все конфессии. К ним относится, прежде всего, избыток получаемых эмбрионов; суррогатное материнство; вмешательство в «судьбу» эмбрионов с помощью ПГД; недостаточная ответственность медперсонала и, как следствие, проблема «подлинности» генетического материала использующих ВРТ пациентов; использование ВРТ для одиноких женщин и мужчин, а также лиц нетрадиционной сексуальной ориентации, что разрушает представление о традиционной семье.

*Ключевые слова:* вспомогательные репродуктивные технологии (ВРТ), православие, католицизм, протестантизм, человеческий эмбрион, суррогатное материнство, донорство, искусственное оплодотворение, экстракорпоральное оплодотворение, РПЦ, Основы Социальной Концепции РПЦ.

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### CHRISTIANITY AND ASSISTED REPRODUCTIVE TECHNOLOGIES: THE SEARCH FOR MORAL AND ETHICAL FOUNDATIONS

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The problems of assisted reproductive technologies (ART) continue to be the subject of both medical, philosophical and ethical, and theological discussions among representatives of different faiths. ART allow us to bring into this world those who are without the help of the latest technologies could not be among us in the situation when the natural way of coming is impossible. But for this medicine uses methods that are alien to the nature of the living and the nature of man as a biological species, in particular. And it should be noted that it is the moral and ethical norms rooted in the religious worldview that are under the greatest pressure from the constantly growing flow of changes in all spheres of life caused by the accelerating scientific and technical progress and especially by the rapid development of biotechnology and especially ART. We can single out the following problems of ART, which, one way or another, consider all confessions. These include, above all, an excess of the resulting embryos; surrogacy; interference with the «fate» of embryos using preimplantation genetic diagnosis (PGD); insufficient responsibility of medical staff and, as a result, the problem of «authenticity» of genetic material of patients using ART; the use of ART for single women and men, as well as transgender and non-binary people, etc.

*Key words:* assisted reproductive technologies (ART), Orthodoxy, Catholicism, Protestantism, human embryo, surrogate motherhood, donation, artificial insemination, extracorporeal fertilization, Russian Orthodox Church (ROC), The Basics of the Social Concept of the ROC.

Assisted reproductive technologies (ART) allow us to bring into this world those who are in a different situation, without the help of the latest technologies, could not be among us where the natural way of coming is impossible. But for this medicine uses methods that are alien to the nature of the living and the nature of man as a biological species, in particular [10]. By the beginning of the 21st century, the development of biomedical technologies reached the stage that allows not only to provide medical assistance in overcoming diseases, but also to directly manage human life from its beginning to the earthly end. So, prenatal diagnosis of embryos (preimplantation genetic diagnosis - PGD) makes it possible to predict the parameters of the future life, and gene therapy to change these parameters. Therefore, the problems of ART continue to be the subject of both medical, philosophical and ethical, and theological discussions among representatives of different faiths. So, P. Yersild in 1982 gave a classification of theological points of view on IVF, without specifying them by confessions. He divided the views into three categories. The first was the opinions of those who found support for the idea of the «natural order» in the Bible. According to this idea, the natural way of childbearing and only it complies with divine laws, which should not be overthrown by such procedures as IVF. He attributed to the second category those who hold the opinion that the sacred texts do not testify about God as the designer of a static order, but about the God of history, who constantly encourages people to become «colleagues» in creating a more humane world. If medical science and technology allow childless couples to gain the blessed status of a parent, we should be glad that such achievements are possible, and also recognize that we fulfill the role given to us by God.

The third category has united those whose theological orientation does not give any categorical «yes» or «no» in relation to «in vitro fertilization» (IVF), but raises questions about the proper priority of IVF. So, for example, the question «why do we have children?» able to determine the prerogatives of the Christian destination in relation to IVF. The formulation of such a question leads to the conclusion that the responsibility of parents to God is not concentrated in childbirth, but in raising children. Since the case of pregnancy is not important for the upbringing of children, and IVF creates serious ethical and moral problems, adoption should be a priority alternative to IVF.

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The document entitled «The Basics of the Social Concept of the Russian Orthodox Church» [7] separates the concepts of «artificial insemination» and «extracorporeal fertilization». The first of them, according to the Concept, presented in the XXII chapter, considers the issue from a moral point of view, the second - in general. However, in the opinion of priest Alexy Knutov and Archpriest Igor Aksenov [1], in paragraph 4 of XXII chapter there is no sufficient degree of clarity required for the disclosure of issues relating to human life. However, in reality, the term «artificial insemination» in the Concept means not a phenomenon, but a completely specific method of intracorporal (intra-body) fertilization - artificial insemination (introduction of husband's sperm into the uterine cavity in an artificial way). Therefore, in the opinion of some clergymen, this paragraph in the XXII chapter of The Basics of the Social Concept of the ROC should be understood as follows: artificial insemination (AI), an artificial introduction of the germ cells of the husband into the womb, can be considered as acceptable means for integrity of the marriage union and does not differ in a fundamental way from the natural conception. The concept of IVF says the following: «Morally unacceptable from an Orthodox point of view are all varieties of in vitro (out-of-body) fertilization, involving the preparation, preservation and deliberate destruction of excess embryos».

However, the Concept does not give a clear answer to the question whether the formation in vitro of a limited number of embryos (for example, two) is morally acceptable, followed by transplantation of all of them into the uterine cavity.

Hegumen Artyukhin is sure that the risk of death of embryos transplanted into the uterus during IVF is higher than that of embryos resulting from natural conception. In his opinion (which probably expresses the opinion of the Council on Biomedical Ethics of the Moscow Patriarchate), embryo transfer to the womb is nothing more than a scientific experiment, and the price of the experiment is human life, because from the point of view of Orthodoxy, embryos are already «human». However, this view does not take into account that, according to modern research in the field of reproduction, at least 70 % of embryos in the conditions of natural conception cannot be implanted or die in the first days (weeks) due to genomic anomalies or violations of embryogenesis [4, 5]. The development of ART today, thanks to the PGD of embryos, reduces the percentage of genome breakdowns in embryos prepared for transfer to the uterus [4]. The Basics of the Social Concept of the ROC clearly set out the position of the ROC with regard to the manipulation of donation of germ cells and surrogate motherhood. Thus, the use of donor material, according to the Concept, violates the integrity of the person and the exclusiveness of marital relations, allowing the intrusion of a third party into them. The use of donor material undermines the foundations of family relationships, since it implies the presence, in addition to «social», also so-called «biological» parents of the child. «Surrogate motherhood», that is, the gestation of a fertilized egg by a woman who, after giving birth, returns the child to the «customers», is unnatural and morally unacceptable even in cases when it is done on a non-commercial basis. This technique involves the destruction of deep emotional and spiritual intimacy, which is established between the mother and baby already during pregnancy.

The Roman Catholic Church adheres to the same position, for this Church the key question of the ethics of ART is the question of the status of a human embryo. Official documents of the Vatican emanating from the Pontifical Council for the Family or the Pontifical Academy for Life, state that from the moment of conception a human embryo, even if it consists of a fertilized egg, is zygote, possesses the same human dignity as any other human person [1, 12]. Cardinal Alfonso Lopez Trujillo, president of the Pontifical Council for the Family, in a programmatic article «Cloning: the disappearance of direct parenthood and the denial of the family» writes: «The human embryo, recognized on the basis that the human person is endowed with an organism for itself, has its own dignity and therefore deserves respect. This 'dignity' is not caused by any external additions, but is inherent in its existence, in and of itself. If people refuse to admit that an embryo has human dignity on the pretext that it does not have an actual consciousness, then the dignity of people who sleep or are in a coma should also not be recognized. If the dignity of the embryo is rejected, then the dignity of the child can also be denied» [12].

Due to the fact that ART is associated with the production of an excess of human embryos, some of which can then be destroyed, the Roman Catholic Church considers ethically unacceptable in vitro fertilization methods, cloning, and similar reproductive technologies associated with the production and death of human embryos.

Of particular interest is the reaction of Protestantism to the development and implementation of ART. Due to the fact that Protestantism itself is a heterogeneous phenomenon, the range of its approaches is also quite wide. Thus, the «Social Position of the Protestant Churches of Russia», which was prepared by Russian Protestant denominations in accordance with the decision of the Advisory Council of the Heads of Protestant Churches in 2003, does not provide a detailed answer to the question of our interest. In the section «Manipulations with the birth of human life» we can see a more distinct position on the problem of surrogacy and donor conception. However the document does not give an answer if artificial insemination is possible with the husband's sperm. Thus, conservative Mennonites completely deny such technologies, as, indeed, any fruits of scientific and technical progress,

regarding the claims of man to the role of the Creator. Protestant liberals, on the contrary, in the development of biomedical technologies see a manifestation of the creative ability of a person given to him by the Almighty. Also, the attitude of Protestantism towards in vitro fertilization is not voiced. The entire analysis of the use of reproductive technologies comes down to the moral problem of family integrity and the violation of the divine plan for man. Conception and the birth of children is «one of the most natural results of family life, conceived and blessed by God» [1, 2, 11]. Artificial reproduction of people suggests a sensitive attitude to the value of human life. Accordingly, such procedures as in vitro fertilization «require a preliminary determination of the number of fertilized eggs, as well as moral issues related to deciding the fate of the remaining pre-embryos» [11, 14]. We do not see here a clear position and a clear answer -«it is possible» or «not allowed» – to use the IVF. Rather, it looks like some kind of warning for those who still ventured to get involved in a difficult, from a moral point of view, situation. In the past decade, liberal tendencies have gained massive popularity, leading to even greater separation of Protestant communities. The confrontation of conservative and liberal supporters of the bioethical problems of ART in Protestantism shows, as we see it, the growing ideological crisis. However, the most real problem for the Protestant churches is the ethical understanding of in vitro fertilization, which is closely related to the question of the moral and legal status of the embryo.

Seventh-day Adventists rated the IVF method as a whole positive. They stressed that in many cases of infertility, the desire of married couples to have children can be realized only with the help of modern methods of medicine. Conscious of the importance of posing and understanding a large number of very difficult social and ethical issues arising from the practical use of artificial insemination methods, the authors of the «Concept of the Adventist International Medical Society» wrote the following: «The use of in vitro fertilization can be a great blessing for childless spouses, allowing them have a child who will be their child». Perhaps Adventists are one of the few who pay close attention to medical issues. Collaboration with medical organizations or establishing own Adventist medical centers is a must-have for social service in this branch of Protestantism. An aid to infertile couples is also an integral part of this ministry. «The continuation of the human race is part of God's plan, and children are a blessing from the Lord», says Recommendations on artificial insemination, with reasoning references to the Bible. Childlessness is not a shame: no one should be forced to have children through (or without help) medical intervention.

Religious ideas and the moral and ethical norms resulting from them, being by nature factor-forming in relation to human cultures, are determinants not only

for the Christian world, but also for peoples professing Islam, Buddhism, Judaism or others who have local distribution, own religious views. It should be noted that it is the moral and ethical norms rooted in the religious worldview are under the greatest pressure from the constantly increasing flow of changes in all spheres of life caused by the accelerating scientific and technological progress and especially by the rapid development of biotechnology and especially ART [11, 15].

We can single out the following problems of ART, which, one way or another, consider all confessions. These include, above all, an excess of the resulting embryos; surrogacy; interference with the «fate» of embryos using PGD; insufficient responsibility of medical staff and, as a result, the problem of «authenticity» of genetic material of patients using ART; the use of ART for single women and men, as well as transgender and non-binary people. These problems and their joint discussion in the foreseeable future can become a natural platform, a zone for exchanging opinions and developing new convictions in an effort to create favorable socio-biological and universal moral attitudes for solving the continuation of life on earth in all its diversity of possibilities.

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### ДУХОВНОСТЬ И НРАВСТВЕННОЕ СОСТОЯНИЕ ЛИЧНОСТИ МЕДИЦИНСКОЙ СЕСТРЫ

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В статье изложены результаты исследования духовности и нравственного состояния личности медицинской сестры как условия формирования партнерских отношений в медицине в диадах: медицинская сестра – пациент, медицинская сестра – врач, медицинская сестра – медицинская сестра. Полученные данные позволили утверждать, что медицинские сестры являются зрелыми, духовно развитыми личностями. Они ощущают себя принадлежными к православной культуре (87,2 %) и признают необходимость сохранения в России традиционных религиозных ценностей (86,5 %). Однако 23,3 % медицинских сестер считают медицину, находящейся вне морали, а 6,3 % – даже противоречащей ей. Возможность вмешательства религии в медицину допускает очень малое число (6,6 %) медицинских сестер. Поддержание высокой духовной и нравственной культуры как условия формирования биоэтического мировоззрения в эпоху цифровой медицины требует непрерывного изучения биомедицинской этики на всех этапах профессиональной подготовки сестринских кадров.

Ключевые слова: духовность, религиозность, медицинские сестры, биомедицинская этика.



#### SPIRITUALITY AND MORAL PERSONAL STATE OF A NURSE

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The article presents the results of the research in spirituality and the moral personal state of a nurse as a condition for the formation of partnership relations in the medicine in dyads, these being: a) a nurse – a patient, b) a nurse – a doctor, and c) a nurse – to another nurse. The received data allowed to ascertain that nurses are mature, spiritually developed personalities. They feel themselves belonging to the Orthodox culture (87,2 %) and admit the necessity of preserving the traditional religious values in Russia (86,5 %). However, 23,3 % of the nurses consider medicine being beyond moral, and 6,3 % – even contradicting it. The possibility of interference of religion into medicine is allowed for by a very small number (6,6 %) of nurses. Keeping up with the high spiritual and moral culture as a condition of formation of bioethical outlook in the epoch of digital medicine demands a continuous study of biomedical ethics at all stages of professional training of nurse personnel.

Key words: spirituality, religiousness, nurses, biomedical methods

In the modern culture based on the post-modern system of thinking, negating the verity of philosophical theories and the universal nature of moral and cultural principles, a person not only stops being the highest value, but in general loses any phenomenological value [8]. As a result, in Russia, as well as in other countries, one can observe a negative trend towards de-humanization of a personality being accompanied by the loss of such essential mental values as spirituality and commonality. Under the conditions of a widespread violence in the society, criminality, immorality and drug addiction are the consequences of the fall in spirituality of the human being; not only the values common to humanity are being devalued, but also the human life itself. With the decrease of the spiritual level of the population, many social institutions are destroyed within society. Simultaneously, there is devaluation of the significance of the ethical regulators in the professional activity in the medicine. Such personal traits as 'delicacy', 'mercy', 'tolerance' and 'the ability to establish a psychological contact' are important only for 33 % of the students at a medical university [4]. At the same time, the ability to conduct professional activity in the medicine presupposes presence of a 'spiritually developed personality' among representatives of medical professions, as it was provided by a questionnaire [7].

The authentic author's methodology was modified and validated during the pilot research. The questionnaire consisted of three main parts and the final (passport) part, characterising the status of the respondents (5 questions). The first part of the questionnaire is devoted to the definition of religious and confessional belonging of the medical employees (2 questions), the second – to their moral characteristics (15 questions),

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the third – to the attitude to biomedical technologies (18 questions). In total, there were 40 questions.

To study the moral representations of the paramedical personnel, by the sampling method in March 2016, the questioning of nurses was conducted, with the nurses working in ten state medical organisations providing primary healthcare and who provided voluntary informed consent to participate in the study. The inclusion of the research participants into the sampling population was done by the method of quota sample, based on two statistical parameters: gender and age. The collection of statistical material was conducted by independent interviewers having incomplete higher medical education. After checking the fullness and quality of filling all items of the program, 288 questionnaires were included into the research.

The gender composition of those participating in the research, is represented by women (95,6 %) being in the most active period of their working career (the average age -43 years old (95 % CI 30-54). The total years of service in the medicine made up 23,8 years.

During the statistical processing of the digital material, the qualitative and quantitative indicators were being calculated. The critical level of significance was accepted to be equal 0,05. The calculation of 95 % of confidence interval (CI) was done by Fisher's exact test. The processing of statistical data was done with the help of the package of Excel application programs.

**Results and their discussion.** Spirituality is the phenomenon of human existence and the main condition of the moral rebirth of the people. The need for cognition refers to the category of spirituality relates – that of the world, of oneself, and the meaning and purpose of one's life. The person is spiritual to the extent

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that they reflect upon such questions and are aiming to receive answers to them.

The phenomenon of spirituality arouses interest among 64,5 % (95 % CI 52.1-75.3) of nurses. The majority (60,0 %; 95 % CI 42.3-75.4) of them correctly understand the meaning of the concept 'spirituality'. Of their total amount, for 61,1 % of nurses, the spirituality is comprised in the 'internal world' of the person manifesting in the «indifferent attitude to the people around». More deeply, the concept of spirituality is understood by 38,9 % of nurses: 27,8 % perceive it in the sense of 'love to the person' based on 'divine commandments' and 'principles of religious morale', and 11,1 % - as 'prevailing of moral values over material ones. To the manifestation of spirituality, most (71,0 %; 95 % CI 52.1-75.3) of nurses refer visiting museums, concerts of classical music and exhibitions. This is not true for 16,1 % (95 % CI 9.0-27.2), and 19,4 % (95 % CI 11.4-30.9) got difficulty in answering this question.

In the structure of value orientations, spirituality is perceived by the majority (74,2 %) of nurses as a never devalued advantage. Approximately the same meaning is attributed by them to the family values (67,7 %), significantly less – to intellectual achievements (22,6 %) and vanishingly small – to monetary and material richness (1,6 %). This confirms the statement that the «objective usefulness of spiritual activity of a person is combined dialectically with the subjective self-forgetfulness» [3]. As per the data of E. B. Alexeyeva [2], who was studying the structure of value orientations of nurses, based on the methodology suggested by S. S. Bubnova, the first place is taken by the value 'health' (5,8 points), second – 'love' (5,6 points) and third – 'high material well-being' (5,1 points).

Significantly fewer number of nurses have an idea about soullessness as an antonym for spirituality, – only 36,7 % (95 % CI 21.9-54.5). From their total amount, 70 % relate spirituality to the negative qualities of a personality – vengefulness, greed, lethargy of thought, selfishness, indifference etc. However, for 30 % of nurses, the non-spirituality is related to the absence of belief. The features of non-spirituality, as per the nurses, are as follows: vengefulness (71,0 %), consumer attitude to other people (64,5 %), indifference (53,2 %), lethargy of thought (32,3 %), pursuit of profits (32,2 %), ignorance of deep feelings (29,0 %), will to power (29,0 %), disdain for intellect (24,2 %), pursuit of wealth (24,2 %), wish of glory (19,4 %), hedonism (17,7 %).

The concept of spirituality is only limited to the concept of religiousness, as religiousness is only one of the ways of spiritual life. Only 41,0 % (95 % CI 35.5-46.7) of nurses admitted themselves to be religious people. At the same time, most of them positively views religion (80,6%; 95 % CI 69.1-88.6) and are regular in church attendance (72,6 %; 95 % CI 60.4-82.1). However, fast is observed only by few (8,1 %; 95 % CI 3.5-17.5). The overwhelming majority of nurses consider the basis of their world outlook views to be Orthodox Christianity (87,2%; 95 % CI 82.8-90.5)

and advocate the necessity of preserving traditional religious values in the country (86,5 %; 95 % CI 82.0-89.9).

Almost all nurses reflect upon the moral issues (95,1 %; 95 % CI 92.0-97.1). Whereby one in two (52,4 %; 95 % CI 46.7-58.1) consider moral and religion closely related to each other and mutually conditioned, and only 30,6 % (95 % CI 25.5-36.1) perceive moral autonomous phenomenon, not related to religion. One in two nurses (52,8 %; 95 % CI 47.0-58.5) see the nature of origin for the moral in the human and nature activity, and only 12,5 % (95 % CI 9,2016,8) admit their divine origins.

Dependence of the medicine on the moral stances in the society is only admitted by 44,4 % (95 % CI 38.8-50.2) of nurses. One in every four or five people (23,3 %; 95 % CI 18.8-28.5) consider medicine to be beyond moral, whereas 6,3 % (95 % CI 4.0-9.7) – even contradicting the moral laws. Only 25,0 % (95 % CI 20.4-30.3) of nurses, whilst resolving the issues related to providing medical services, are guided by their religious views. And only 6,6 % (95 % CI 4.3-10.1) consider that religion should interfere into the healthcare issues.

Whilst assessing the main reasons for the adverse situation in the domestic healthcare, the majority (61,1 %; 95 % CI 55.4-66.6) see them in the lack of material resources, whereas 47,6 % (95 % CI 41.9-53.3) – in the spiritual-moral crisis of the Russian society. And approximately the same amount (45,1 %; 95 % CI 39.5-50.9) consider that the mass media outlets started a propaganda campaign in the society with regards to consumption and hedonist values.

Together with this, the overwhelming majority (82,3 %; 95 % CI 77.5-86.3) of nurses agree with the statement that medical professionalism includes moral stature and presupposes acquisition of ethical knowledge.

The nurses in general succeeded in their professional and personal life. The majority of them are content with the chosen profession (80.6 %; 95 % CI 68.1-88.6) and their family (85.5 %; 95 % CI 74.7-92.2). However, only one in two (46.8 %; 95 % CI: 34.9-59.0) is absolutely happy with their own professional and personal fate. The considerable part (33,8 %; 95 % CI 23.3-46.3) found it hard to respond to this question, whereas at the same time, 'the project of life' of 19,4 % (95 % CI 11.4-30.9) remained, in their opinion, unimplemented. The majority (65,3 %; 95 % CI 59.6-70.4), upon being given the opportunity to choose a place of work in Russia or abroad, would remain to work in their native country. However, one in five (18,1 %; 95 % CI 14.0-22.9) would prefer to work in another country, and 16,6 % (95 % CI 12.8-21.4) found it hard to respond to this question.

The idea of teaching a number of topics related to biomedical ethics (life as a value and death) by clergymen is supported by 33,0 % (95 % CI 27.8-38.6) of the nurses. Approximately the same part is opposed to it (32,6 %; 95 % CI 27.5-38.3) and the same **17** 





amount (34,4 %; 95 % CI: 29.1-40.0) do not have an answer to this question.

Conclusion. Thus, summing up the conducted research, special emphasis should be paid to correct understanding by the nurses of the meaning of the phenomenon of spirituality in the context of concepts 'humaneness' and 'belief'. The semantical closeness of these fundamental concepts is in the fact that the moral origins of humaneness are in the religious consciousness. Nurses, not possessing systematized scientific bioethical and religious knowledge and experience, cognize the meaning of the phenomenon of spirituality intuitively correctly. In their majority, nurses are mature, spiritually developed personalities. They perceive spirituality as «the highest level of development and self-regulation of a mature personality, based on which the main motivational-significant regulators become the highest human values» [6]. This is contributed by the constant keeping up of the nurses with the intensive professional communication with patients, in the highly-charged emotional atmosphere of existential problems relating to start and end of life of a person: birth, illness, ageing, dying and death, being the main reason of spirituality of all people [1].

With that, this fact makes it uneasy that 23,3 % of the nurses consider medicine being beyond moral, and 6,3 % - even contradicting it. Bearing in mind that the professional activity of the nurses is conducted during the period of digital medicine, the transition to which is accompanied by major structural sociocultural transformations in the Russian society, a significant renewal of the content for the curricula and syllabi is needed for the nursing education (both for vocational and higher education). Their meaning and significance are largely defined by the condition and prospects of the spiritual and moral development of nurses-to-be. The negotiation of the modern «crisis of medicinal humanitaristics» [9] might be achieved by inclusion into the curricula and syllabi of vocational training for nurses of the subject 'biomedical ethics', the studying of which, as well as whilst training medical personnel, is be continuous throughout the professional career of this, the most numerous categories of medical professionals.

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### ЭТИКА ТАЙМ-МЕНЕДЖМЕНТА В УСЛОВИЯХ СОВРЕМЕННОЙ ОТЕЧЕСТВЕННОЙ СИСТЕМЫ ЗДРАВООХРАНЕНИЯ

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Система здравоохранения в современных условиях взаимодействия практической медицины с наукой, образованием, бизнесом, государственными властными структурами требует эффективного управления. Этим обусловлено развитие современного этапа тайм-менеджмента, одной из важнейших задач которого является стремление к повышению собственной эффективности, быстрейшему достижению своих целей, обеспечивающему карьерный рост. Однако, в связи с невниманием к лучшим историческим традициям отечественной медицины и медицинского образования, выявилась тенденция обесценивания духовной составляющей врачевания. В связи с этим необходимо осмысление этических проблем тайм-менеджмента. Решение обозначенных проблем требует возрождения моральных и этических традиций отечественного врачевания, восстановления гуманитаризации профессии. Подходы к этому видятся в изменении организации и содержания высшего медицинского образования.

Ключевые слова: тайм-менеджмент, медицина, этика, этические принципы, медицинская педагогика, медицинское образование, организация здравоохранения.

### ETHICS OF TIME MANAGEMENT IN THE CONDITIONS OF MODERN DOMESTIC HEALTH CARE SYSTEM

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The health care system in the present conditions of its reform, the interaction of science, education and practice of medicine, business, public authorities, requires effective management. This is due to the development of the current stage of time management, one of the most important tasks is the desire to improve their own efficiency, rapid achievement of their objectives, provide career growth. However, due to inattention to the best historical traditions of Russian medicine and medical education a trend of depreciation of the spiritual component of healing is revealed. In this regard, it is necessary to understand the ethical problems of time management. The solution of these problems requires the revival of the moral and ethical traditions of domestic healing, the restoration of the humanization of the profession. Approaches to this are seen in changing the organization and content of higher medical education.

Key words: time management, medicine, ethics, ethical principles, medical pedagogy, medical education, organization of health care.

The health care system in modern conditions of its reforming, the interaction of practical medicine and science, education, business, and government authorities requires effective management. Time management is actively developing - an interdisciplinary section of science and practice that studies techniques and techniques that allow rational distribution of time at the personal, team and corporate levels. One of the most important tasks of time management is the desire to improve their own efficiency, to achieve their goals as quickly as possible, ensuring career growth. However, today, due to the lack of attention to the best historical traditions of Russian medicine and medical education, there has been a tendency to devalue the spiritual component of healing. In this connection require special attention comprehension of ethical issues of time management, which are the consequence of the desire to save time at the expense of the interests of the patient, that is embodied in a mechanistic approach to treatment, lack of understanding of the characteristics of his personality, ignoring the moral values.

In modern domestic and foreign scientific and methodological literature in the works of G.A. Arkhangelsky, S.M. Kalinin, S.V. Bekhterev, M.A. Lukashenko, T.V. Telegina, E.S. Glukhova, F. Gilbert, P.F. Drucker, S. Covey, D. Allen, T. Ferris and etc. described how to effectively time planning on a personal, team and corporate level, as well as methods for achieving personal effectiveness in the field of time management. **19** 

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In the literature of the soviet period, A.K. Gastev, P.M. Kerzhentsev, emphasized that personal effectiveness becomes a method of thinking that makes it possible to manage time, while various techniques and techniques are considered tools of thinking.

Meanwhile, the time as a philosophical and general scientific category is studied in the humanities – philosophy, sociology, psychology, history. However, in the scientific and methodological literature, in our opinion, issues of interaction between time management and humanitarian knowledge, the ethical aspects of time management, the importance of the highest moral values understanding in organizing activities aimed at improving personal effectiveness are insufficiently covered.

Ethical views of prominent doctors, scientists, health care organizers, public figures – N.I. Pirogov, I.M. Sechenov, V.F. Voyno-Yasenetsky, A.L. Myasnikov, N.M. Amosov, S.N. Fedorov, F.G. Uglov, E.I. Chazov and others, along with their original proposals in the field of time management, are presented in one of the areas of journalistic literature – memoiristics. In published historical sources (autobiographies, letters, diaries, memoirs, memoirs) consistently reflected the process of the formation of their fundamental ideas.

Formation of domestic time management belongs to the beginning of the twentieth century, however, in early cultural and historical epoch interest in time management arose in various fields of activity. One of the features of the medical activity is the need for timely and prompt provision of medical care, often in difficult conditions. The creative activity of many prominent domestic doctors was aimed at finding new ways to optimize time spending in an effort to alleviate the condition of a suffering person.

In the aspect of studying the ethical aspects of time management in the history of domestic medicine, in order to identify the socio-cultural and historical conditionality of its development, we see it appropriate to distinguish the following periods:

• From the middle of the XVIII cent. before the beginning of the XX cent. The beginning of this period is associated with the struggle of advanced doctors of Russia for the independent development of domestic medicine. The emergence of higher medical education, the approval of national personnel in scientific, educational and administrative institutions were happened. Research work was developed. University clinics were created, world-famous clinical schools, the first medical scientific societies were appeared. Public medicine, zemstvo medicine, experimental hygiene were developed. Under these conditions, in medicine – in the field of management, organization, medical activity, science – the experience of organization, planning, rational use of time was accumulated.

• Since the beginning of the XX cent. until the end of the XX cent. This is the period of Soviet health care. The emergence of time management occurred in the 20s of the XX cent. conditions of rapid development of the economy and scientific organization of labor. The task of fighting for time on the scale of society and the state was set for the first time. The development of time management was initially limited by the production sphere, and since the 1970s in society the idea of budgeting time, as well as a system for managing personal time were widely spread. Further development of time management in medicine continued within the framework of the state policy of the USSR in the field of healthcare, the basic principles of which were: the state nature of healthcare; preventive focus; public participation in health; unity of science and practice of public health.

• Since the end of the XX cent. until now. This period began with the collapse of the USSR, when in Russia in difficult socio-economic conditions transition to a market economy and decentralization of management were carried out, a new strategy was developed to improve healthcare management, and its reform began.

Today time management is developing in a market economy, when along with the state, paid medicine is developing, the development of science and technology expands the possibilities of diagnosis and treatment. One of the most important tasks of time management is finding of ways to effectively time planing at the personal, team and corporate levels, as well as ways to achieve personal effectiveness and career growth.

The founder of national clinical medicine M.Ya. Mudrov (1776–1831), developing the doctrine of the unity and integrity of the body, argued: «I will tell you briefly and clearly: healing consists in treating the patient himself ... ». His system of clinical examination of the patient and an individual approach to treatment, the implementation of complex therapy (diet therapy, hydrotherapy, hemorrhage, psycho-and occupational therapy) were first in Russia reflected in recorded medical histories carefully kept in a personal archive [5]. G.A. Zakharyin (1829-1897) - the founder of a large clinical school, a follower of M.Ya. Mudrov, improved the method of questioning the patient. Such work on compiling and improving the medical history from the point of view of modern time management made it possible to optimize the doctor's work, rationally use the time and improve the quality of treatment.

N.I. Pirogov (1810–1881) – an outstanding Russian surgeon, scientist, teacher, public figure, creator of topographic anatomy and the experimental direction in surgery, one of the founders of military field surgery. In his multifaceted activities, he attached particular importance to issues of management and organization of time. In 1847, he first applied ether anesthesia in droves in the conditions of military operations in Dagestan with the help of the apparatus he developed for delivering anesthesia. During the Crimean War in the besieged Sevastopol in 1854–1855 years the using of ether anesthesia made it possible to operate simultaneously on three tables of 80-100 patients per day. N.I. Pirogov wrote: «You can end 10 large amputations, even with the help of not very experienced hands, in 1 hour and 45 minutes. If you simultaneously operate on three tables and with 15 doctors, then at 6 hours and 15 minutes it can be done 90 amputations, and therefore 100 amputations with a short time at 7 o'clock» [6, p. 184]. The practical conclusions, formulated by N.I. Pirogov in the conditions of hostilities, laid the foundation for the organizational, tactical and methodological principles of military medicine. He argued: «Not medicine, but administration plays a major role in helping the wounded and sick at the theater of war». The success and timeliness of medical support for troops depends on the organizational structure of medical institutions, their subordination, appointment, mobility and interaction between them and is determined by the nature of the war, methods of warfare, but also the achievements of healthcare practice. For the sake of streamlining the work of dressing points, rational use of forces and time, N.I. Pirogov first used the sorting of the wounded, which formed the basis for further medical-evacuation support for the wounded. The proposed organization for sorting the wounded was subsequently used in many armies around the world.

From 1864 to 1917 zemstvo medicine was a new, special form of health-medical care for the rural population in Russia, its unique experience enriched the further development of domestic and world health. Until 1864 organized medical care for the rural population in Russia did not exist. The basis for the organization of medical care in the zemstvo was district medicine. Zemstvo plots were allocated in the county structure. A traveling medical care system has been created: the zemstvo doctor on the established days moved around the villages, accepting patients at exit points. A serious drawback of such an organization system was the irrational use of time, especially taking into account our climatic conditions and - traditionally the state of Russian roads. In the middle of 1870s, a stationary medical care organization system was introduced, which significantly optimized time costs. The doctor worked in a local hospital, conducted outpatient visits, in emergency cases he went to seriously ill patients, for epidemics, for vaccinations. County and provincial hospitals were created in zemstvo provinces. Under the conditions of zemstvo medicine, assistance was also provided in obstetric care, the fight against infectious diseases, sanitary supervision and practical sanitary measures, the spread of hygienic knowledge, and care for the situation of medical personnel in zemstvos. Zemstvo doctors demanded free medical assistance to the rural population and were able to achieve by the beginning of the twentieth cent. cancellation of inpatient care fees in 215 counties out of 359. Payment for the treatment reduced the uptake of medical care, the consequence of which would be to increase the risk of the spread of dangerous,

including infectious diseases. In addition, sanitary statistics were carried out, which made it possible to evaluate the effectiveness of the activity and help to find ways to optimize it, including making it easier to find ways to reduce inefficient time costs.

During this period, a special type of Zemstvo doctors formed, incorporating the best traditions of Russian public medicine. In Russian literature in the works of prominent medical writers - A.P. Chekhov, V.V. Veresaev, M.A. Bulgakov hard work, service to the people, and ethical ideals are chanted. The image of the Zemstvo doctor was formed in certain cultural and historical conditions. In the XIX - early XX cent. the heyday of Russian philosophy, one of its characteristic features was a special interest in historical and ethical issues. In the philosophical-historical and social-philosophical sphere, one of the central issues was the choice of the further path of Russia and the Russian people. The ideas of Russian philosophy were developed in the whole context of culture: in science, in a living, figurative word in Russian fiction, in painting, music, and theater. People's liberation ideas, «humanity and concern for human life», as N.G. Chernyshevsky wrote, were covered in all areas of culture and had a decisive influence on the fate of many prominent figures of that time. Intelligent Russian youth of the late nineteenth century were looking for a direct way to serve the people: to alleviate the suffering of peasants, to teach their children in rural schools. So, recalling the circumstances of the choice of his professional activity, V.F. Voino-Yasenetsky (1877–1961) – a domestic humanist, an outstanding surgeon, doctor of medicine, professor, spiritual writer, bishop of the Russian Orthodox Church, archbishop of Simferopol and Crimean, wrote: «... I once went to the director of public schools of the Kiev school district with a request to arrange me in one of the schools. The director turned out to be an intelligent and insightful person: he appreciated my populist aspirations well, but very energetically dissuaded me from what I was up to and urged me to enter the medical faculty. This was consistent with my desire to be useful for peasants who were so poorly provided with medical care» [1, p. 15-16]. In 1898, Voino-Yasenetsky entered the medical faculty of Kiev University. At this time a system of ethical principles was formed, embodied in the activities of the best representatives of zemstvo medicine:

• do not what you want to do, but what is useful for a sick person;

• do your job competently, accurately, carefully;

• help the suffering always and everywhere, regardless of the circumstances;

• comprehend medical work – analyze, identify the most characteristic, summarize, draw conclusions, determine prospects;

• transfer their knowledge and experience to the younger generation – medical pedagogy as a facet of creativity; 2





• contribute to the improvement of the domestic health care system [4].

In the history of domestic and western medicine before the development of zemstvo medicine, there were no examples of creating a system of public organization for providing the rural population with modern scientific medical care. The lack of the possibility of understanding historical experience stimulated the search for new solutions in the creation of such a system, including in the field of management. At the same time, the solution to the problems of optimizing time costs was originally intended to alleviate the suffering of the patient and was based on traditional, historically established features of domestic medicine and medical education, which presuppose a holistic vision of the patient, individualization of treatment, and complex therapy. The sciences of health, treatment, disease prevention and the art of healing have developed in unity with the unshakable moral principles of like-minded people brought up in the humanitarian environment of the medical faculties of Russian universities.

The situation of the first years of Soviet power – civil war, devastation, famine, the spread of epidemics – required the organizational unity of healthcare, the development of the state healthcare system. A state network of hospitals and pharmacies was created, and training was organized. For the first time, the legacy of many great thinkers – Hippocrate, Ibn Sina, I.P. Frank, N.I. Pirogov and others, who foreshadowed the future of preventive medicine, was embodied in the principles of state policy.

The state nature of health care provided for the centralization of management, state funding, state planning of health programs. The entire population of the country was provided with free and accessible medical care.

The preventive direction of health care in the USSR as a principle in the organization of medical business is today adopted in many countries of the world. Sanitary and anti-epidemic measures were carried out, protection of motherhood and infancy, health education, development of physical education, sanitary protection of water, air, soil, food, catering, housing, public places, the basis of medical examination was developed.

The participation of the population in health care – the establishment of this principle took place in the first years of Soviet power with a lack of medical personnel. Commissions were formed to improve labor and everyday life, mass sporting events were organized to promote a healthy lifestyle, etc.

The principle of the unity of medical science and healthcare practice is directly related to its state character. Research institutes, the Academy of Medical Sciences were created, theoretical, clinical, preventive medicine was actively developed.

In the Soviet period the ideas of time management in medicine developed under the conditions of the state healthcare system, the dominance of Marxist-Leninist ideology. In a socialist society, health was seen as a social function, which was provided not only by the individual, but to a greater extent, by the whole society. In this situation, the tasks of increasing one's own effectiveness and career advancement in the conditions of official ideology have not been developed.

Today, in the process of rapidly developing globalization, one of the consequences of which was the spread of uniform standards throughout the world, a number of negative phenomena are also revealed in medicine. The greatest concern is the leveling of human characteristics, due to the diversity of historically developed cultures and life.

Today, in the process of rapidly developing globalization, one of the consequences of which was the spread of uniform standards throughout the world, a number of negative phenomena are also revealed in medicine. The greatest concern is the leveling of human characteristics, due to the diversity of historically developed cultures and life. All this destroys the thought and takes time, not allowing thoughtful work with the patient. A paradox occurs: the doctor does not have time for healing. The main semantic component of medicine – humanitarian – is washed out.

The essential feature of modern medicine in all its forms (treatment, science, professional education, healthcare) is its interdisciplinary nature, and the consistent expansion of interdisciplinary ties. This phenomenon is highly progressive, because its purpose is to preserve and improve by all means the main value of society – human health.

However, intersectoral and interdisciplinary interaction raises problems that had no analogues in the past, and therefore have no algorithms. To solve them, approaches are required, which should be based on philosophical reflection in value-targeted, systemic, procedural, and productive aspects.

One of these problems is that the widespread development of the technical capabilities of diagnostics and treatment, the variety of pharmaceuticals, experiments in the organization of healthcare have created a situation somewhat similar to the enthusiasm for technicalism in industry: a person with his distinctive identities subjective features has fallen into the background behind an array of diverse innovations. The doctor has become part of a system that would seem to be aimed at curing people, but not taking into account the individual characteristics of the person (both the patient and the doctor), a system in the development of which such essential components that have developed over the centuries as the art of healing, ethical principles of the physician are emasculated.

The sign of our time was the coexistence, on the one hand, of such large-scale phenomena as the construction of large clinics, perinatal centers, dispensaries, and other medical institutions equipped with modern equipment and instrumentation. On the other

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hand, there is a reduction in emergency care centers in rural areas and small towns, a number of doctors refusing to help patients with reference to existing or invented administrative restrictions. Finally, the disgusting wrong side of paid medicine: tearful requests to collect money «Many a little makes a mickle» for life-supporting operations, which are possible, but they (it's a shame to say when it comes to human health) are expensive.

In all this, oblivion of the ethical principles and professional duty of a doctor is seen as a disease of the modern domestic healthcare system.

Today the problems of bioethics are exacerbating. Broadcasting a certain lifestyle in the context of globalization leads to an inversion of values, which causes concern when the public comprehends many ethical problems, one of which, for example, is associated with the achievements of genetic engineering, the possibilities of using stem cells, reproductive technologies, clinical transplantology and others. So, for the treatment of diabetes, strokes, spinal cord injuries, hepatitis, cirrhosis, tumors, leukemia and other diseases, embryonic stem cells obtained from aborted embryos can be used. Obviously, according to the predicted increase in the incidence rate, the need for this biological material will also grow, which under certain conditions can become a commodity or a type of resource. It can be assumed that in the economic interest in satisfying demand, there is a threat of an implanted lifestyle that contributes to an increase in the number of abortions. What consequences can this lead to? Is it possible in the context of globalization to create a universal system of values that is acceptable both for developed countries initiating globalization processes and for countries and peoples that are at risk of economic decline, poverty and oblivion of national cultures? Obviously, this problem requires deep understanding in the future and at present cannot be solved.

In the general context of the problems in the field of ethics that exist in the modern domestic health care system, in the development of time management, a number of problems are also identified, both in the field of medical care organization and in the relationship between the doctor and the patient, the unresolvedness of which ultimately reduces the quality of treatment.

So, in order to increase personal effectiveness, in accordance with the principles of time management, a health manager, in order to save time, resorts to the delegation method – reassignment of emerging operational tasks (usually unplanned), which are usually not included in the list of employee functional duties (in the job description), to his subordinates. The manager is guided by formal (providing the technical side of the work) and informal (psychological) rules, and situations of manipulation often arise here. Moreover, he meets with the resistance of subordinates, arising for many reasons: passivity; fear of criticism, punishment; lack of information, knowledge and experience; overwork with work, duties, assignments; fear of responsibility; low level of labor motivation and etc. This attitude towards delegation can be an indicator of serious systemic organizational problems. But it can also have local causes related to the human factor. Therefore, the approaches to their solution should be based on orientation to a system of higher moral values: freedom, justice, equality, love. Moreover, equality in professional and business communication should imply equality of human dignity of all subjects of communication, maintaining honor and dignity, trust, goodwill, respect for another subject and his needs, interests. The ethics of business communication requires the manager to have an attitude towards employees, involving the free disclosure and implementation of their personality; guarantee of social and professional rights of an individual; nondiscrimination and respect for equality on national, age, gender and other grounds, etc.

One of the most important problems in the work of a doctor is the limited time spent working with the patient. Examination capabilities are expanding, the doctor must comprehend a large flow of information. Often, in conditions of time pressure, the use of wide technical capabilities of diagnostics replaces communication with the patient, his questioning. The patient is depersonalized. Under these conditions, the desire to optimize the time spent can be dangerous for the patient and, as a result, ends with the extra time spent by the patient for additional examination, clarification, clarification, coordination, solving bureaucratic issues, wasting time in queues, and most importantly – losing health. Obviously, the solution to this problem cannot be limited only by the application of effective methods of time management.

In the context of the implementation of the digitalization of medicine projects, of course, unprecedented opportunities for diagnosis and treatment, reduction in the organizational costs of time for both the doctor and the patient are opened. But the development of new digital technologies will fall on the shoulders of doctors who are apparently not prepared in advance, and there is a risk that with an ill-conceived organization there will be even greater time costs, to the detriment of the time necessary for the patient.

A special place is occupied by ethical problems of time management in the conditions of paid medicine. As noted above, one of the most important tasks of time management at the present stage of its development is the search for ways to effectively plan time on a personal, team and corporate levels, as well as ways to achieve personal effectiveness and career growth. In terms of paid medicine, time management, assuming care for the time of the doctor and patient, is also intended to ensure profit. Here the formula «time is money» begins to work, and in many cases ethical issues, for obvious reasons, recede into the background. Duo)muka



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The solution of these problems requires their philosophical reflection in the desire to revive the moral and ethical traditions of Russian healing.

It is necessary to restore the humanization of the profession. Approaches to this are seen in changing the organization and content of higher professional education. The restoration of the art of healing is associated with a number of pressing problems, among which the following can be distinguished. Firstly, the range of problems associated with insufficient training of applicants and the difficulties of professional selection. Secondly, the interaction of the humanitarian and natural science components. Thirdly, the problems associated with the specifics of medical education and the need for continuous self-improvement, the ability to navigate in an increasing flow of information. Separately, problems in the field of bioethics should be identified.

The art of healing, first of all, provides for the presence of individual psychological characteristics of a person in a doctor that ensure success in treating a patient, the development of which occurs in the process of education and upbringing throughout life. Many scientific works of domestic and foreign researchers are devoted to the study and description of the abilities of musical, mathematical, literary and other. This allows you to look for effective ways of professional selection at all levels of education. The experience of domestic specialized general education, mathematics, music, art, sports schools is invaluable. But such issues in the aspect of training future medical workers are not covered in the literature. The situation is complicated by the fact that the profession of a doctor requires a combination of several groups of abilities. This makes their identification at an early age and development difficult. Perhaps that is why there are no specialized schools for the training of future medical workers. In most cases, a young man can only consciously choose the profession of a doctor by the end of school. But the level of training of applicants to medical universities is determined by the results of entrance examinations in biology, chemistry, physics, and the Russian language. Since exams are conducted in the form of testing within the framework of the USE, it is impossible to get an idea of the personality of the future doctor, his abilities, the ability to think and state, and communication skills. In addition, the overload of the school curriculum, the strengthening of the natural science block of disciplines and the shortage of students' time result in a decrease in attention to humanitarian disciplines. Interest in history, the Russian language and literature, reading in general, fine art, and classical music is being lost. All this limits the possibilities of assimilation of socio-historical experience. As a result, the educational function of the education system itself, which is also realized in shaping the personality of the future doctor, is weakened. It is impossible to identify the abilities of applicants and to conduct a high-quality professional selection, and those who later entered the university are not prepared for the assimilation and use of the flow of information.

A number of sciences are taught in medical universities, the object of knowledge of which is a person, each of them is divided into narrow areas having specific terminology and problems. This creates the conditions for the growth of special knowledge. However, the predominance of the process of differentiation of the human health sciences with respect to their integration does not give the student a holistic view of the human body in the anatomical, physiological and psychosomatic aspects, leading to an underestimation of the influence of environmental factors on health. In this situation, mastery of humanitarian disciplines will help to understand the essence of man, the unity of the biological and social in him, his psychology, the diversity of relations with the outside world, which in the future will allow «to cure not the disease, but the patient». Thus, the need to study philosophy, history, foreign languages, psychology and other humanitarian disciplines is obvious. The World Health Organization defines the concept of health as a state of complete physical, mental, social well-being, and not just the absence of an illness. As you can see, mental wellbeing stands out. Therefore, the doctor needs knowledge of the psychology of communication, which may be needed already from the first minutes of communication with the patient, sometimes conflictology, ethics. But today, only a small part of the time in the first year is allocated to the cycle of studying the humanities. One of the real dangers arising in the context of modern medicine is a violation of the holistic view of a person, his internal harmonious unity. There is a tendency to understand the disease based on mechanistic representations at the level of an organ or organ system. In these conditions, the need is ripening, in the light of the current trends in medicine, to seek new ways to integrate knowledge based on a philosophical understanding of the essence of a person, his health, and approaches to complex treatment.

It is clear that the embodiment of this approach in practical medicine requires changes in the field of medical education, because the formation of the worldview of a future doctor, his ability to think widely and use the knowledge gained at a university depends on the level of humanitarian training.

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### НАЦИОНАЛЬНЫЕ ОСОБЕННОСТИ ПРЕПОДАВАНИЯ БИОЭТИКИ В МЕДИЦИНСКОМ ВУЗЕ

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В статье обсуждается проблема востребованности биоэтического образования для студентов медицинского вуза, связанная с негативной тенденцией сокращения учебных часов на гуманитарные дисциплины. Такая точка зрения апеллирует к усилению профессиональной составляющей, определяющей профильные компетенции специалиста. В частности, предлагается сократить учебное время на преподавание биоэтики в медицинских вузах для его использования на обучение операциональным техникам, так называемым практическим навыкам. В качестве оппонирующей точки зрения предлагается анализ фрагмента учебной практики по биоэтике, разработанной ЮНЕСКО, по проблеме оказания медицинской помощи несовершеннолетним пациентам в области косметической хирургии. Студентам демонстрируется сложность этического решения, казалось бы, формально решенной нормами права проблемы. Сам процесс обсуждения, возникающие дискуссии, решение судьи, убеждают будущих врачей в неоднозначности принятия этических решений, а также этического контента правовых норм в области здравоохранения. Данная проблема поднимает целый ряд других этических дилемм, инициируя интерес студентов к этической стороне профессиональной деятельности. В статье приведены результаты социологического исследования студентов медицинского вуза [n = 92, средний возраст (19,2 ± 1,01) лет]. Несмотря на то, что 54,3 % респондентов считает, что 15-летний пациент не может давать согласие на косметические операции самостоятельно, 27,5 % студентов затруднились с ответом, также сомневаясь в возможности в 15-летнем возрасте адекватно принимать такие решения. Полученные данные демонстрируют общие этические проблемы, поднимаемые предлагаемой в курсе биоэтики ЮНЕСКО задачей-случаем. Несмотря на возможные расхождения правовых норм национальных законодательств, культурные, конфессиональные или атеистические особенности стран, этические проблемы профессиональной деятельности носят общий характер.

*Ключевые слова:* медицинское образование, программа обучения, студенты, дети-пациенты, правовые нормы, этические ценности, биоэтика.



### NATIONAL PECULARITIES OF TEACHING BIOETHICS IN THE MEDICAL UNIVERSITY

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The article discusses the problem of the demand for bioethical education for medical students. This problem is connected with the negative tendency to curriculum reduction of humanitarian disciplines. This point of view appeals to the strengthening of the professional component that determines the profile competencies of a specialist. In particular, it is proposed to reduce the teaching time for bioethics in medical higher schools for its use in teaching operational techniques, so-called practical skills. As an opposing point of view, the analysis of the fragment of the bioethics course developed by UNESCO on the issue of providing medical care to under-age patients in the field of cosmetic surgery is proposed. Students are shown the complexity of an ethical solution, seemingly formally resolved by the rules of the law of the problem. The very process of discussion, the discussions that arise, the decision of the judge convince future doctors of the ambiguity of ethical decisions making, as well as the ambiguity of ethical content of the legal norms in the field of health. This problem raises a number of other ethical dilemmas, initiating students' interest in the ethical side of professional activity. The results of sociological research of students of medical higher school [n = 92, average age  $(19, 2 \pm 1, 01)$  years] are presented in the article. Despite the fact that 54,3 % of respondents believe that a 15-year-old patient cannot give consent to cosmetic surgery alone, 27,5 % of students found it difficult to answer, just doubting the possibility to make adequate decision at the age of 15. The data obtained demonstrate the general ethical problems raised by the proposed case in the UNESCO bioethics course. Despite possible discrepancies in the legal norms of national laws, cultural, confessional or atheistic peculiarities of countries, the ethical problems of professional activity are of a general nature.

Key words: medical education, training program, students, children-patients, legal norms, ethical values, bioethics.

Modernization of the system of professional national education provides for the graduate the formation of an optimal set of professional competencies that meet modern requirements, including international standards, aimed at minimizing the risks of social and professional maladjustment.

Despite general trends, medical education is characterized by certain specificity due to the peculiarity of professional activity [1, 2]. It is no coincidence that one of the modern trends in the development of professions, according to Western sociologists, is the phenomenon of the «closure of professional groups», which represents the strong power of the expert group of professionals. The creation of professional communities of doctors according to the criterion of specialization (the Association of Obstetricians, Gynecologists, Pediatricians, Dentists, etc.) indicates the appearance of such a trend in Russia.

At the same time, the growth of legal conflicts in medicine is being observed in Russia. It is a negative marker of patients' dissatisfaction with the quality of medical care [3, 4]. Thus, there is a paradoxical situation in the field of health protection: technical equipment and qualifications of specialists are growing, and the number of complaints about medical organizations is not decreasing.

At the same time, an analysis of judicial practice on the problem under consideration confirms the opinion of researchers that most legal conflicts in medicine are of an ethical nature [3]. Indifference, rudeness, inattention, lack of compassion and arrogance of a doctor are the starting mechanisms of conflicts, formalized into complaints, claims, lawsuits.

In this regard, there is an increasing need for optimizing the bioethical education of doctors, starting with the educational environment of the university, where the formation of both specialized (operational) and socio-psychological competencies determines the starting position of a doctor's career path.

Another aspect of the relevance of ethical education in a medical higher school is the orientation towards international standards of professional education. The integration of bioethical education has long ceased to be a European trend. Currently, the International Network of Bioethics Departments of UNESCO has more than 200 branches, which in addition to Europe and the USA includes the Bioethics Departments of medical higher schools in India,

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China, Malaysia, Africa and the Middle East. The UNESCO Social Sector conducts regular workshops to train UNESCO faculty members the bioethics curriculum.

The goal of our work is to demonstrate the European experience of teaching ethical values of the profession on a fragment of the UNESCO training course in favor of arguing the need to optimize the bioethical education of medical students in Russia.

The main method of the basic course of Bioethics is the method developed by the Chairman of the International Network of Bioethics Departments of UNESCO, the Head of the Department of Bioethics at the Medical University in Haifa (Israel), Professor A. Karmi, for seminars – «YES / NO». In its essence it is the case study which is widely used in Russian pedagogical practice.

To demonstrate it, we chose an ambiguous, perhaps, ahead of Russian reality in its relevance, case from European practice on the problem of treating underage patients [5].

Students are invited to discuss the following case: «A 16-year-old S. is diagnosed with bilateral gynecomastia (enlarged breast tissue). To avoid embarrassment and psychological distress caused by the ridicule of his peers, he has never swum, gone to the beach, and he has never played any sports that could expose his problem. Physical education lessons were especially difficult for S. S. exhausted himself with diets that allowed him to lose weight, but the problem of gynecomastia persisted. Thus, S. continued to avoid situations where his condition would have been obvious to others. Moreover, although he was admitted to college, he decided not to attend it, because he did not want to live in a dormitory, where, he expected, he would be mocked.

Dr. G., the pediatrician of the boy, recommended an operation to correct the "deformation" of S. and to reduce the patient's emotional discomfort. According to Dr. G., "the procedure was a medical necessity"».

Students are asked to answer the question: «Should S. be subjected to surgery to correct a cosmetic defect?» The following answers / arguments are suggested:

«No» – Patient S.'s age is still minor, and he does not have to undergo a surgical procedure with certain medical risks; it is not a medical necessity. His difficulties in dealing with his discomfort can be treated with the help of psychological methods.

«YES» – The operation is indicated to the patient. This will not only improve his appearance, but also will allow him to return to the life characteristic of a teenager.

Students need to discuss and offer other possible answers, determine ethical issues and decide which answer is most appropriate, explaining the reasons.

Since the professional activity of a doctor is governed by national law, students are guided to a primary assessment of the legality of a doctor's actions, and they also predict possible legal conflicts. In particular, a real decision of the national court on the claim related to this case is proposed.

The court's decision: «This case took place in the Civil Court of XXX District, where the patient S.' father requested compensation from the insurance company for the surgical procedure performed for S. to remove the enlarged breast tissue. The court noted that, although the mastectomy was aimed primarily at improving the appearance, this improvement was not an end in itself. Rather, it was a means to allow S. to live like an ordinary teenager.

Analytical determination of whether the operation was optional and cosmetic depends on the size of any "functional defect" caused by patient's anomaly. The impairment noted in S. took the form of fear of any situation that would lead to the exposure of his physical defect by others. Because of his fear, C avoided many activities related to normal adolescence. While many adolescents avoid activities due to emotional turmoil caused by existing or imagined abnormalities, S.'s gynecomastia was an objective, tangible and unusual source of emotional discomfort comparable to such defects as clubfoot or cleft palate rather than the typical adolescent psychological problems associated with the "big nose" or acne. Recent examples are also objective and relatively common and often lead to cosmetic treatments.

The psychological health of anadolescent plays a significant role in determining the extent of the adolescent's reaction to the perceived anomaly. Thus, there may be cases where an anomaly is insignificant (no functional disorders), and for psychological reasons the adolescent's reaction is serious and irrational. In such cases, psychological treatment should be prescribed, but not surgery. On the contrary, S.'s anomaly was significant, and his reaction to it was rational; apparently, there was no psychological reason for S.'s emotional disturbances. The medical expert acknowledged that "the operation was a treatment that was medically necessary to correct the S.'s anomaly and malfunctioning"».

Of course, further discussion on the case under consideration should be managed by a teacher. In particular, a teacher reminds students that, in general, the purpose of cosmetic surgery is to improve the appearance of a person, and not to save his (her) life. However, improved appearance can significantly improve the quality of life and benefit the patient on an emotional level.

In the case of a minor cosmetic surgery for underage, it is necessary to examine carefully whether this medical intervention will benefit the child or adolescent, since any operation carries certain medical risks. Quite often, patients, including minors, feel disadvantaged because of defects in appearance, and cosmetic procedures can be beneficial to them, especially if the potential damage and risks of injury are small.





The patient is 16 years old in this case, and there is no doubt that he is mentally mature enough to understand the procedures that are offered to him and he cant assess the consequences of such treatment. In this case, the views of the patient are extremely important. In this case there is no description of a specialist's consultation or the patient's opinion about undergoing mastectomy, however it is difficult to believe that this was done against his wishes.

The problem of providing care to minors is complicated by psychological content, and it is necessary to take into account age, lack of life experience, emotional lability of adolescents. It is necessary to understand the importance that he (she) attaches to his (her) condition (illness), in accordance with his (her) values and feelings. If a minor is old enough to assess his (her) condition fully, and he (she) is aware of the risks of surgery and wants this medical procedure, because his (her) condition (defect) significantly reduces the quality of life, interferes with his (her) daily life and the ability to communicate with his peers – the appointment and performing cosmetic surgery can be considered quite ethical.

Despite the fact that at first glance the problem seems far-fetched, and it is unlikely to be often encountered in the Russian medical practice of a pediatrician, discussion of this case raises a number of ethical problems of the doctor's professional activities, such as the concept of benefit and risk, decision-making autonomy, etc.

According to the current Russian legislation, the age of the legal capacity of the patient in the field of health care is 15 years (Federal Law «On the protection of public health in the Russian Federation,  $N_{2}$  323 Federal Law 2011»). Thus, a 15-year-old teenager (if he (she) is not registered with a narcologist) can independently give consent to medical intervention. It is the early age of the patient's capacity that causes a number of ethical problems.

We conducted a sociological study of students in the higher medical school on the model of 2nd year students of the pediatric faculty [n = 92, average age  $(19,2 \pm 1,01)$  years]. The survey was anonymous, while respecting all the privacy standards of the respondents.

The goal of the study is to determine the possible ethical risks of professional work of pediatricians associated with the complexity and peculiarity of the patient's age in pediatrics.

Students were asked indirect questions. So, the students gave ambiguous answers to the question about the ability of the patient-child to accept their condition and perceive medical intervention. Students are divided into approximately equal groups of 15–27 % of respondents (p > 0.5), fig. 1.



Fig. 1. The structure of the views of medical students about the age of availability of medical information\*

\* The abscissa is the number of respondents (in%); the ordinate is the estimated age groups of patients.

According to the results, students believe that patients-children are able to be aware of their condition (at their level) and should be familiar with treatment tactics already at 6 years old (14,2 %), and only at 16 years old (21,2 %). The obtained data are explainable by the specifics of the patient's age in pediatric practice. Future pediatricians are aware of the need

to respect the patient as a person, at any age, and an emotional trauma for the child, which he (she) can have when receives medical information.

At the same time, all students are already familiar with the current legislation (the legal basis for the activity was studied in the previous training course), they know the age of the patient's capacity, but already having little

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experience of visiting pediatric departments, they admit that the legal norms are lagging behind modern medical technologies and practices. Thus, students were asked to assess the adequacy of the legal capacity of 15-year-old patients to give written consent to a number of medical **.** procedures (for example plastic surgery).

The data obtained are characterized by sufficient student solidarity (Fig. 2).



Fig. 2. The structure of the views of medical students about the age of consent of 15-year-old patients to medical intervention in the field of cosmetic surgery\*

\* The abscissa is the number of respondents (in%); the ordinate is the answer options.

Despite the fact that 54,3 % of respondents (more than a half) believe that a 15-year-old patient cannot give consent to cosmetic surgery on their own, 27,5 % of students find it difficult to answer (the option «I don't know»), i.e. doubt the possibility of making such decisions at the age of 15.

The data obtained demonstrate common ethical problems raised by the case-problem proposed by UNESCO in the course of bioethics. Despite possible discrepancies between the legal norms of national laws, cultural, confessional or atheistic peculiarities of countries, ethical problems of professional activity are of a general nature.

Thus, in our opinion, the integration of international bioethics programs in medical higher schools into the national educational practice is necessary. This will allow, within the educational environment of a medical higher school, to form a specialist doctor who is ready to make mature ethical decisions, based on international experience within the framework of Russian reality [6].

The programs on bioethics developed by the International Network of UNESCO Bioethics Chairs are constantly discussed and modernized in the framework of international congresses and conferences on bioethics and health law (14<sup>th</sup> World Conference on Bioethics, Medical Ethics and Health Law, November 21–24, Jerusalem; 23<sup>rd</sup> Annual of World Association for Medical Law Congress, July 10–13, 2017 Baku, Azerbaijan) [7, 8].

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### КРИОНИКА: ОРГАНИЗАЦИОННО-ПРАВОВЫЕ И ЭТИЧЕСКИЕ АСПЕКТЫ

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Работа посвящена крионике как области научно-практической деятельности, занимающейся заморозкой людей с целью восстановления их жизнедеятельности в будущем при помощи соответствующих технологий. В статье рассматриваются проблемы организационного характера, связанные с деятельностью криофирм на мировом рынке. Поднимается проблематика, связанная с правовым аспектом крионики, который выражается в отсутствие нормативноправовых актов, регулирующих положения и деятельность только кампаний, занимающихся криоконсервацией. Обращается внимание на этическую составляющую крионики. Приводятся аргументы противников и сторонников крионики. Предлагаются средства и методы для решения насущных проблем, связанных с криоконсервацией человека, деятельностью крионических фирм и малой распространенностью идей крионики в современном обществе.

*Ключевые слова:* крионика, криоконсервация, крионический биостаз, криобиологические методы, витрификация, криопротекторы, криопациент, крионические организации, договор, услуги по криоконсервации, рынок крионических услуг, правовые и этические проблемы криоконсервации.

### **CRYONICS: LEGAL AND ETHICAL ASPECTS**

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The article is focused on cryonics as a field of scientific and practical activity dealing with freezing humans and aiming to resuscitate them in the future through applied technology. This article discusses organizational problems relating to activity of cryonics companies on global market. It also shows legal issues of cryonics with absence of legislation that regulates only terms and conditions of cryopreservation companies. Then, it shows ethical aspect of cryonics, arguments of supporters and opponents of cryonics. The article offers means and methods of solving immediate problems relating to cryopreservation of humans, activity of cryonics companies and little awareness of cryonics ideas in modern society.

*Key words:* cryonics, cryopreservation, cryogenic biostasis, cryobiological techniques, vitrification, cryoprotectants, cryopatient, cryonics organizations, contract, cryopreservation services, cryopreservation market, legal and ethical issues of cryopreservation.



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The concept of cryostasis was formed in 1940s and 50s dueto scientific achievements in cryobiology, neurobiology, molecular biology, and informatics. Under the name of cryonics, cryostasis was put into practice in the USA in the late 1960s. Cryonicsis lowtemperature freezing of a human corpse, with the hope that resuscitation may be possible in the future when the required technologies will become available [3]. The best way of preserving human body known to the date is stopping the process of decomposition in the body, which occurs naturally while deep-freezing. Vitrification is used for preserving human body. Vitrification is cryopreservation with the help of special next-generation cryoprotectant mixtures and effective temperature controlled processes, which fully eliminate tissue freezing. As a result, patient's tissues do not freeze (as many people not so familiar with cryonics think), but become hard as glass without formation of ice crystals. Moreover, living cells are able to stay alive after vitrification. This ability occurred naturally during evolution process. It is necessary to fix the fine structure of human brain (spatial distribution of connections between neurons) during several hours (or even several dozens of hours) after organism death. In this case, information about the person's identity that was saved would be enough for their future medical revival (of course this includes saving past memories too). Cryonicsdoes notgive a 100 % guarantee for revival, but it is the only real way to reach immortality for many people.

Cryostasis is part of cryonics and is fixing tissue structures of human body through freezing to extralow cryogenic temperatures [10].

For cryostasis, chemicals known as cryoprotectants are infused into body through circulatory system to reduce freezing damage for tissues. Then the body is gradually freezed to the temperature of liquid nitrogen (-196 °C) and placed into a liquid nitrogen cryostat (dewar or big thermos). At such extra-low temperature, it can be preserved for centuries virtually unchanged. However, as liquid nitrogen tends to evaporate from a dewar, it should be added there periodically. This makes the process of preservation rather expensive.

Existing cryobiological techniques allow microscopic animals (up to several mm long) to freeze to liquid nitrogen temperature with minimum damage. After this, they thaw and continue functioning in a usual way. At a temperature from -5 to -50 °C some insects (like maggots and caterpillars of Palaearctic butterflies), amphibians (frogs and Siberian salamanders) and reptiles (turtles) freeze and then revive after thawing. Skin, cornea, bone marrow, sperm and embryos are freezed to the temperature of liquid nitrogen for storing and future thawing and medical use. In small pieces of adult human brain tissues, electrical activity of neurons can be seen after freezing and thawing. There is massive work being done in the field of freezing separate human organs. In the next 10-20 years, it is expected that promising cryobiological techniques for safe freezing and revival of a whole brain are going to occur. This indicates that during freezing with cryoprotectants damages got by a biological subject at molecular or cellular level are not lethal. Main damages that make it now impossible to freeze and then revive a human occur while freezing big biological objects on organic and tissue level because of complexity of tissues and organs and different volume of cryoprotectants in them including even lack of cryoprotectants in some parts. This causes gradients of concentration of chemicals and mechanical stress, which lead to cell membranes damage, and fractures in tissues and organs. These damages are numerous, but they do not lead to permanent loss of information about organism structure, so they can be repaired in the future.

Today it is impossible to describe exactly the whole spectrum of technologies used for reviving cryopatients in the future. Still, with scientific progress the understanding of them becomes fuller. Today we can assume that such technologies like nanotechnologies, organs growing, artificial organs (cyborgization), brain modeling, 3D printing of organs and tissues, organ transplantation (and other technologies that are not widely used today) may be used for revival.

Cryonics deals with finding ways of long-term preservation of people with serious diseases or deceased ones with use of nanotechnologies as part of scientific and commercial practice.

The aim of cryonic biostasis is preservation of terminally ill patients until the times when medical technologies become able to cure damaged cells, tissues and pathologically changed functions of organism. In special cryonic organizations, the process of cryostasis goes through some stages from signing a contract and becoming a member of a cryonic organization to cryopreservation, storing and revival with further treatment.

Arguments provided by companies offering cryopreservation of a whole body or its parts seem to be quite attractive, as they promote an idea that not only a body, but an identity, consciousness and even individuals may be safely freezed and revived with no consequence. It is also expected that there will be an option of resurrecting deceased people and brain transplantation.

The patient may choose between the whole body preservation and preservation of only its part, i.e. neuropreservation. Neuropreservation is preservation of brain only or the whole head at extremely low temperatures. Neuropreservation may usually be interesting to people who are well-acquainted with new technologies and tech & scientific predictions. Neuropreservation is an option for those who understand **31** 



that according to modern scientific views identity of a person is in the brain – and also for those who expect that in the future a patient will get a newly-grown bodyas a set of organs (for example, from the stem cells of this patient) – or an artificial one [11].

In modern world there are several companies providing cryopreservation services and having their own cryostorages. Alcor is an American nonprofit organization founded by Fred and Linda Chamberlain in 1972 in California with the name Alcor Society for Solid State Hypothermia (ALCOR). Cryonics Institute is an American nonprofit organization founded in 1976 by Robert Ettingerand co [12]. KrioRus is Russian cryonics company founded in 2005 as a project by a non-governmental organization Russian Transhumanist Movement that promotes transhumanism and immortalism, studies the perspectives of developing innovative technologies, and develops them. Yinfeng Life Science Foundation is a Chinese organization founded in 2017.

KrioRus is the only cryonics company in Europe that possesses its own cryostorage and offers full range of cryonic services. According to official KrioRus site, by 2018 they have 66 cryopatients and 31 cryopreserved animals. About 200 people have already signed cryopreservation contracts. Today, KrioRus stores 19 foreign citizens of Ukraine, Italy, USA, Australia, India, France, Republic of Belarus, Georgia, Estonia, Israel, Netherlands, Switzerland and Japan [13]. The cost of neuropreservation is \$15,000 for Russians and \$18,000 for foreign clients. All procedures are the same for both whole body and neuropreservation, except that for whole body, perfusion and storage become more complicated and costly. So the fees for cryopreservation of cryopatient's entire body are currently \$36,000.

KrioRus enters contracts with clients that establish subject matter, main terms on cryopreservation, obligations of the parties, duration of the contract, contract termination terms, guarantees and liabilities. The subject matter of a contract is a person willing to become a cryopatient who specified that in a will. The contract agreement says that implementing party performs its actions only after registration of patient's legal death. Also the implementing party should be notified in advance about critical condition of a cryopatient. KrioRus undertakes to organize all required transport activities for a patient and immediately start the required procedures, and also to ensure safe cryopreservation. The customer must pay for the service in accordance with a contract; take measures for making Declaration of Intention of cryopatient's desire to be cryopreserved and immediately inform KrioRus about critical condition of a cryopatient. Also the customer is obliged to coordinate with KrioRus the amount of information about cryopatient, that could be used by KrioRus in informational materials. The implementing

party does not guarantee revival and successful preservation of a cryopatient. This can be found in multiple clauses of a contract, but KrioRus agrees to fulfill the obligations in good faith. KrioRus is not responsible for cryopreservation of a cryopatient at locations other than the facilities the company is using. KrioRus declines all responsibility for delay in performing or failure to perform the obligations caused by force majeure circumstances beyond company's control. Duration of a contract is 100 years, from the moment of signing. If the possibility of reviving cryopatients does not appear during the term of the contract and in the absence of violations of the contract, the contract is automatically prolonged for another 25 years each time.

You must become a member of Alcor to enter a cryopreservation contract with this company. The Membership Due is \$700 a year. Today cryopreservation of a whole body costs \$200,000, and neuropreservation costs \$80,000. Non-members of the organization also have an option to enter a cryopreservation contract agreement. In this case you should pay additional \$25,000 for cryopreservation of non-members organized by third party being a member of Alcor or \$50,000 for cryopreservation of non-members organized by third party being a nonmember of Alcor too. On September 30, 2018, therewere 162 patients of Alcor and 1214 organization members.

The Cryonics Institute (CI) does not offer neuropreservation – only cryopreservation of the whole body. This is mainly because CI specialists consider the idea of preserving only a patient's head unacceptable for most people. In July 2018, there were 170 patients, 158 animals and 1898 members in CI.

Cryopreservation contract agreements with CI and Alcor have little differences between each other. The procedure in Alcor is as follows. Signing a cryopreservation contract, a person automatically becomes an organization member and has to pay membership dues. This is due to legislation of the USA and legal status of this organization, which members are its managers at the same time. You can become a lifetime member or a yearly member. In a cryopreservation contract, there are duties of the parties, provisions explaining the cryopreservation process and risks involved. The member must not only sign the cryopreservation agreement, but also sign a consent for cryopreservation and provide last will and testament for human remains and Authorization of Anatomical Donation. Alcor shall maintain all required efforts for successful cryopreservation of a member and will make reasonable efforts to protect the name of the Member in conjunction with details of his/her cryopreservation, if only the member allows to publicly disclose the information. The agreement must be signed not only by a member, but also by 20 other

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members of Alcor and witnesses. It is also possible to become an associated member of Alcor. These supporters of Alcor are not yet ready to make cryopreservation arrangements. Associate Members are members of the Alcor Life Extension Foundation who have not made cryonics arrangements but financially support the organization.

The companies do not guarantee that there will be a safe human reviving technology in the future. When signing a contract with KrioRus agreeing to conduct scientific research on preserving and reviving a human, KrioRus requires patient's recognition that the company does not guarantee reviving a cryopatient.

After being notified about the death or critical condition of the cryopatient, the cryonic company sends a team of cryonic experts to the location of the cryopatient. After getting a death certificate, this team starts preparing client's body for cryopreservation (by perfusing body tissues with cryoprotectant agent, starting gradually cooling the body and transporting it to the cryostorage). After the freezing is finished, the body is placed into a cryostat of Dewar vessel type with liquid nitrogen [1, C. 173].

The practice of reviving a body of a diseased or dead person which was being cryopreserved for future treatment for decades or even centuries now seems fantastic. For these ideas to become true, the scientific world of biophysicists, biologists, doctors, lawyers, philosophers and other specialists should solve many problems, some of which should become a basis for planning of future scientific research.

While reviving a frozen body, there may be a need of own or someone else's blood or its components. With blood transfusion from one person to another, the recipient also gets information of another person. There has been limited research on this issue, but it is very important from the point of view of medicine and cryology.

From a scientific perspective, we should answer a question of when the human body should be cryopreservated. In fact, changes in brain cells and other tissues start to develop after 5-7 minutes of clinical death. These changes are considered irreversible and defined as biological death.

Cryonics is legal in most parts of the world. It is illegal only in British Columbia in Canada. The legislation prohibits cryonics promotion, but does not prevent residents of British Columbia to enter into contracts with cryocompanies outside the province. Employees of funeral homes may transport cryopatients to cryocompanies outside the province.

There is still no legislation regulating terms and issues of cryonics only. Organizations providing cryopreservation services act under general law.

Alcor and the American Cryonics Society operate under The Uniform Anatomical Gift Act (UAGA), which allows them to receive human organs and possess

them. After at least three trials in California Alcor got a right to provide cryopreservation services in this state and UAGA provided Alcor with quick access to patients' remains in hospitals. As American Cryonics Societyis also based in California, it got some benefits from Alcor legal victories in court.

CI has a cemetery license, which under the laws of the state Michigan allows them to be considered a cemetery. It also receives organs for ACS (American Chemical Society).

In Russia, cryonics is legal. People have right to determine the terms of storaging their body after death. Preservation of freezed body or brain for scientific purposes is not prohibited in Russia. Cryonics is also a part of scientific experiment.

Limited liability partnership KrioRus is a research organization which according to its Company Charter and Federal Law «On science and federal technical and scientific policy» may conduct scientific research and experiments, including cryonics field [6].

Russian civilistic science did not consider the issue of legal framework of cryopreservation as a form of burial. The Article 1 of 12.01.1996 Federal Law «On burial and funeral business» (next seen as FL «On burial and funeral business») establishes guarantees of burial of a deceased person regarding his/her wishes expressed while alive and the relatives. Law determines burial as a ceremonial act of burying a corpse in accordance with customs and traditions, which do not violate health-related and other requirements (Article 3 of Federal Law «On burial and funeral business») [7].

Technical and scientific achievements in the field of cryopreservation tend to increase. Development of social relations needs to be legally settled in a proper way. Some scientific literature states that law is valuable because of its ability to regulate social relations the best way, so non-social law in this context cannot exist [2, C. 112]. Due to this, one should consider issues of legal regulation of cryopreservation from the point of view of their social necessity.

In accordance with the Article 66 of the 21.11.2011 Federal Law «On the Bases for the Protection of the Health of Citizens in the Russian Federation», «the moment of one's death is the moment of their brain's death or their biological death (irreversible death of an individual). Brain death happens with complete and irreversible cessation of all its functions registered with heartbeat and artificial ventilation» [8]. Ministry of Health order of 25.12.2014 «On procedure of establishing the diagnosis of brain death of an individual» (registered in the Ministry of Justice of the Russian Federation 12.05.2015, № 37230) sets out the rules of establishing a diagnosis of human brain death, including children aged one year or older, in medical institutions or another institutions practicing medical activities regardless of their legal status.

These rules are regulated by Federal Law «On the Bases for the Protection of the Health of Citizens in the Russian Federation» [9]. Brain death thus equals death of an individual.

Most legal cases show a conflict between cryopatient's will expressed in his/her testament and their family. Sometimes relatives who do not understand or accept the idea of cryopreservation refuse to carry out the cryopreservation contract and take the body of the deceased for further burial or cremation. For example, on November 22, 2012, the appeal judgement of Moscow City Court declines to admit body release of citizen M.A. to the citizen O.V illegal, declines obligation for the company «Ritual» to transfer the body to the «KrioRus» company and to impose penalty. The only reason for this decision was that this controversy is not decided by the ordinary court. In foreign court practice, there is a case where a cryopreservation company proved its case. On May 12, 2010, the Iowa Court of Appeals ruled in favor of Alcor and ordered to continue cryopreservation of Orville Richardson's remains. The court also ordered that the UAGA, which is applicable in Iowa, may be applied to Mr. Richardson's written wishes about cryopreservation by Alcor, so Alcor's demand regarding the remains is above the demand of brothers and sisters who embalmed and buried Mr. Richardson.

As a young scientific practice, cryonics deals with many ethical problems. Its problems may be considered as bioethical. Bioethics is a field of interdisciplinary research aimed on reflecting, discussing and dealing with moral issues brought up by the latest achievements of biomedical science and healthcare practice [5, C. 5]. It is aimed to manage conflicts between the field of developing and implementing new biomedical knowledge and technologies at one end and individuals and society at the other. Bioethics goes beyond medicine. As an applied science, it tries to solve problems arising in modern clinical practice, such as very specific ethical tasks resulting from appliance of the latest technologies dealing with the beginning and the end of life. Not only may the cryopatient suffer from some kind of harm, but also the relatives. If the process of cryopreservation or storing the patient went wrong, it would become impossible to revive him/her in the future. This may affect not only the patient whose last will was not executed, but also his family. Failed or interrupted cryopreservation may make them feel guilty about their beloved one. Moral damage may also be expressed in uncertain status of the cryopatient, lack of columbarium or a place for mouring.

It must be noted that scientists tend to think that «freezing a body and its storage for an uncertain period of time with the hope that future generations will be able to bring it back to life is an act of faith, not science». Presidentof National Council Against Health Fraud William T. Jarvis expressed conventional wisdom of doctors: «Cryonics might be a suitable subject for scientific research, but marketing an unproven method to the public is quackery». Doctors often ignore cryonics considering it fun, but expensive and risky [14].

«Global science acknowledges that freezed human bodies cannot come alive. That's why Russian doctors treat cryonists like healers, pseudoscience popularizers», – says Irina Siluyanova, head of the bioethics department of RNRMU. «Today we can freeze and restore individual cells (including very important ones like ovules and sperms), separate organs and some simpler organisms like reptiles, – claims Evgeniy Aleksandrov, the head of Commision on Pseudoscience of Russian Academy of Sciences. – But cryonics is merely exploiting our fear of death. I can't imagine a physiologist who truly believes it is possible to revive freezed people in some distant future. I think of the company's activities as of business with fraudulent elements».

This is what cryonics opponents say, believing all this is unreal, useless and senseless. They often appeal to the incomplete process of cryopreservation, global problems like overpopulation and lack of resources and consider cryonics companies activities to be mere fraud. The supporters of cryopreservation do not agree with this offering arguments in favour of cryonics. Cryonist Eliezer Yudkowsky says, «Effective cryonics saves exact all the same what is saved when you fall asleep and then get up the next day». Alcor representatives say, «It's silly to single out something as small and speculative as cryonics as a population issue. Life spans will continue increasing in developed parts of the world, cryonics or not, as they have done for the past century. Historically, as societies become more wealthy and long-lived, population takes care of itself. Couples have fewer children at later ages. This is happening in the world right now. The worst population problems are where people are poor and life spans short, not long». Cryonics supporters also say that latest technologies have always been unacceptable for general public. The same situation was around organ transplantation, but now it is normal and necessary for saving one's life. Moreover, cryonists think that there will be no changes in long-term memory if the cryopreservation is made accurately. There was an experiment with nematode Caenorhabditis elegans, a very well-known model organism for biological research that has generated revolutionary findings. The results in testing memory retention after cryopreservation show that the mechanisms that regulate the odorant imprinting (a form of long-term memory) in C. elegans have not been modified by the process of vitrification or by slow freezing [4]. This means that theoretically even after

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reviving a person in the future their identity will not be lost.

While observing cryonics companies activities more deeply, the problems with cryopreservation become evident. This is due to lack of information about cryonics techniques for masses. An ordinary person does not understand the process of freezing because he/she does not know all its nuances. Also, considering the fact that all cryonics companies abdicate their responsibility and do not guarantee successful cryopreservation and future reanimation, the customer may fall into complex situation when he gives his money and body for the technology, which probably will not be performed properly. So one might draw to a conclusion that possibly cryonics is just a business competing mortuary services. This is another problem showing imperfection in legal regulation of cryonics in the world and raising people against it.

Today the important question is, what activities are required to make cryonics not look like pseudoscience? The answer is complex. First, it is necessary to create legal framework for cryonics, which should regulate all stages of cryopreservation. Ethic committees should be established in cryonics companies. Through legislation it is necessary to develop procedures obliging medical institutions to assist cryopreservation companies in carrying on patient's last will. It is also important to spread the ideas of cryonics through media and that way inform people about this technique and an alternative to death. From our point of view, if one wants to decide in favor of cryonics credibility, they should competently examine its scientific basis (because many basic assumptions are built on scientific theories and hypotheses and analysis of science development perspectives, not on experimentally established facts) in some pretty different scientific areas as neurobiology and neuropsychology, cryobiology, emergency medicine and thanatology, nanotechnology (or atomic and molecular physics), molecular and cell biology, informatics. Despite cryonics still being imperfect because the safe human reviving technology is not developed yet, it is necessary to enhance its development. This will help to cure many non-infectious chronic diseases and allow patients to improve the quality of their life in the future.

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### ИТОГИ РАЗРАБОТКИ И ВНЕДРЕНИЯ СИСТЕМЫ ПЕРСОНАЛИЗИРОВАННОГО МЕДИЦИНСКОГО ОБРАЗОВАНИЯ В ВОЛГОГРАДСКОМ ГОСУДАРСТВЕННОМ МЕДИЦИНСКОМ УНИВЕРСИТЕТЕ

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Персонализация образовательного процесса в медицинском вузе является одним их необходимых условий успешной подготовки профессиональных медицинских кадров.

В статье представлен 7-летний опыт внедрения дисциплины «Курса мануальных навыков и клинической анатомии» на кафедре оперативной хирургии и топографической анатомии Волгоградского государственного медицинского университета и 10-летний опыт студенческого Хирургического Клуба ВолгГМУ, в работу которого внедрена персонализированная система образования будущих хирургов.

Доказана целесообразность дисциплины «Курса мануальных навыков и клинической анатомии» в медицинском вузе, как составляющей части персонализированного медицинского образования. В настоящее время данная дисциплина внедрена в 27 медицинских вузах России. Итоги работы Хирургического Клуба ВолгГМУ, как прообраза инновационного студенческого медицинского профессионального сообщества, продемонстрировали успешные результаты предложенной системы персонализированного медицинского образования на этапе обучения в вузе, постдипломного обучения и в профессиональной деятельности врача.

*Ключевые слова*: персонализация, персонализированное медицинское образование, курс мануальных навыков, клиническая анатомия, студенческий хирургический клуб, олимпийское движение по хирургии.

### MEDICAL EDUCATION PERSONALIZED SYSTEM DEVELOPMENT AND IMPLEMENTATION RESULTS AT VOLGOGRAD STATE MEDICAL UNIVERSITY

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Personalization of the educational process in a medical university is one of the necessary conditions for the professional medical personnel successful training.

The article presents 7 years of experience in the discipline «Manual Skills and Clinical Anatomy Course» teaching at the Department of Operative Surgery and Topographic Anatomy of the Volgograd State Medical University and 10 years of experience at the students' Surgery Club of the Volgograd State Medical University, which applied a personalized education system for future surgeons.



The expediency of the discipline «Manual Skills and Clinical Anatomy» at a medical university, as part of a personalized medical education, has been proved. Currently, this discipline has been introduced in 27 medical universities of Russia. The results of the Surgical Club of Volgograd State Medical University, as a prototype of an innovative student medical professional community, demonstrated the successful results of the proposed system of personalized medical education at the stage of education at a university, postgraduate education and in the professional work of a surgeon.

*Key words:* personalization, personalized medical education, manual skills course, clinical anatomy, students' surgical club, Olympic surgery movement.

Personalization of the educational process in a medical university is one of the necessary conditions for the professional medical personnel successful training [2].

The student's ability to choose independently a future medical specialty, the accessible educational material base and pedagogical resources availability to obtain the appropriate skills in the chosen profession, an individual approach to training, are the success factors for becoming a medical student as a competent professional doctor.

The process of professional self-determination is individual and depends on the psychophysiological characteristics of the individual, the motivation level, professional interests and preferences of students – future specialists. The task of higher education is to promote student awareness as a professional, taking into account personal characteristics, motives, prerequisites and interests; contribute to the professional development planning both at the stage of study at the university, and in professional activities; to form the understanding of the need to develop professional and personal competencies during the whole professional career.

The significance of the personalized medical education system development and implementation was due to several reasons [3].

First, the general educational program is not always able to satisfy all the students' individual characteristics and their interests. There is always a students' distribution according to their degree of interest and academic achievement in obtaining professional education at the university. Three students groups can be distinguished here.

Group 1. «Gold» Students with a high degree of motivation to acquire knowledge and practical professional skills. Such students are interested in gaining knowledge, demonstrate mainly «excellent» results, and are actively involved in research and practical activities. They are capable of mastering knowledge beyond the curriculum. These students independently form the paradigm of learning and do not succumb to the majority opinion.

Group 2. «Silver» Students with a slightly pronounced motivation – stably having «good» learning results and, in some cases, attending scientific clubs in departments, often guided by the opinions of the greater mass of students surrounding them.

Group 3. «Bronze» Students with low or no motivation, having mediocre learning results, who lack interest in scientific-research activity and practice.

The formation of their training paradigm occurs spontaneously, according to the principle of «how will it turn out». From year to year, group 3 shows a steady increase in «gray mass» due to a significant decrease in groups 2 and 3.

The second factor that necessitated the personalized system development and implementation for improving knowledge was the students' loss of basic and secondary guidelines, often through the use of professional standards. If earlier the process of transferring knowledge, especially manual skills, was from generation to generation, then due to the rapid development of training information forms, this individualized approach was undeservedly forgotten.

In order to increase the number of students with a high degree of motivation for obtaining knowledge and practical professional skills and their support, the **system of personalized medical education** was developed and applied at the Volgograd State Medical Institute. This program is primarily focused on the knowledge and practical manual skills individual transfer, direct and long-term contact between the student and the teacher.

The personalized medical education system development at the Volgograd State Medical University began in 2013 with the discipline «Manual Skills with the Basics of Clinical Anatomy» implementation into the educational process at the 2nd year-studying at the Medical and Pediatric Faculties at the basis of the Department of Operative Surgery and Topographic Anatomy [6, 11]. It must be said that this was first used in the medical education of our country. The initiator was the head of the Department of Operative Surgery and Topographic Anatomy, Honored Scientist of the Russian Federation, President of the All-Russian Association of Clinical Anatomists, Professor A.A. Vorobyev. Almost synchronously, this course was introduced into the educational process of the Moscow State Medical University named after I.M. Sechenov (prof. S.S. Dydykin). The expediency and effectiveness of this discipline in medical education was undeniably obvious. Nowadays, this discipline is taught in 27 medical universities in Russia [7].

In 2015, to provide the discipline «Manual skills course with the basics of clinical anatomy» with educational and methodological literature, a team of authors from leading clinical anatomists and heads of Departments of Operative Surgery and Topographic Anatomy of the Medical universities in our country edited by Professor A.A. Vorobyev and Professor I.I. Kagan, released a training book on manual skills

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«Surgery» [9]. In 2016, this training book received the annual award in the field of medical and pharmaceutical education «Docento dicimus» in the nomination «For the best practice of educational programs training and methodological support». In manual skills development classes, students under the guidance of a teacher were able to independently perform the basic surgical techniques of the vascular, intestinal, tendon suture on the biological material of animals and humans, intubate the trachea, apply a tracheostomy, perform punctures of large joints, pleural cavities and other manipulations on surgical simulators. Practical exercises in manual skills and clinical anatomy helped many students to navigate their choice of future medical specialty [10]. Students got a motivation to continue improving and developing in surgical disciplines. The teachers had the opportunity to highlight such students and support them. Students motivated by surgery were able to continue their studies outside the classroom at the students' Surgical Club of the Volgograd State Medical University [13].

Students' Surgical Club of the Volgograd State Medical University exists since 2009. It was organized on the basis of the scientific surgical club of the Department of Operative Surgery and Topographic Anatomy. The change in the status has occurred since the participation of the Volgograd State Medical University students in the All-Russian Student Olympic Movement [4, 8].

For the first time, the student Olympic team of the Volgograd State Medical University took part in the 19th All-Russian Student Olympiad in Surgery in spring, 2010 in the regional tour in Samara and in the final round in Moscow. The formation of the team required enhanced theoretical training, the development of manual skills in surgery, traumatology, endovideosurgery, neurosurgery, resuscitation. For Olympic students, the specialized professionals of the university held master classes, and individual preparation was for each team member for the Olympics. Such a personal approach to each student of the national team gave the result. Already in 2011, the Volgograd State Medical University team became the Olympic third place medalist of the anniversary XXth All-Russian Student Surgery Olympiad in Moscow.

Since the organization of the Surgical Club of the Volgograd State Medical University, participating in the Olympic movement, the Olympic student surgery team has repeatedly become the winner and prize winner of All-Russian and regional Olympiads, surgical interuniversity sparring.

The benchmark for the development of qualified professional manual surgical skills directly from specialist surgeons, the acquisition of a theoretical training high level, significantly changed and increased the status of students trained in the Club and the Surgical Club itself. The students at the Volgograd State Medical University consider the Surgical Club prestigious and priority. Today, the goal of the Surgical Club of the Volgograd State Medical University is the formation of professional competencies in the surgical profile for students of the medical university, taking into account their individual interests in the chosen specialty. Duo)muka

The basic principles of the Club are direct and affordable contact with a high-level specialist, highquality knowledge, the possibility and accessibility of working out acquired students' skills to the level of expertise.

During the 10 years of the Club's existence, experience was gained in the personal training of surgical students.

7-years of teaching experience at the Department of Operative Surgery and Topographic Anatomy and 10 years of experience at the Surgical Club of the Volgograd State Medical University allowed the formation of a **personalized medical education system** and its successful use in the work of the surgical student club of the Volgograd State Medical University:

1. Mandatory basic level of manual skills in surgery development and gradual build-up of the skill.

2. Organization of the Club in a certain structure with partial student self-government.

3. The forms of the Club's work.

4. The Club's material base.

5. The system of students' selection during the selection for the Surgical Club (exam) and at different stages of training in the Club (intrauniversity Olympiad).

6. A multi-level mentoring system.

7. Competitive principle (healthy competition).

8. The ability to choose the surgical section of the Club for classes and the development of manual skills in the chosen specialty.

9. The system of students' stimulation and encouragement.

## Mandatory basic level of manual skills in surgery development and gradual build-up of the skill.

Mastering the required basic level of surgical manual skills begins within the 2nd year-studying on the discipline «Manual skills course with the basics of clinical anatomy». They are required for entrance exams to the Surgical Club of the Volgograd State Medical University. Students must learn to tie surgical knots, use surgical instruments, master the theory and technique of skin, intestinal, vascular, tendon sutures, nerve and liver sutures, tracheostomy on biological material and prostheses. They need master general medical and surgical procedures: stop bleeding, puncture, catheterization, blockade, primary immobilization of fractures, intubation of the trachea, reduction of dislocation of the upper and lower extremities, palpation of peripheral arteries, rectum, placement of probes, cardiopulmonary resuscitation on the simulator. For classes in the system of personalized medical



education, the students should already have knowledge of systemic and clinical anatomy, therefore no earlier than the second year students will be included in this system.

The same basic techniques continue to be mastered by students as the part of the Surgical Club of the Volgograd State Medical University with deepening and expansion at master classes and within the independent work. The club members currently perform operations such as entero-enteroanastomosis, gastroenteroanastomosis, transverse-enteroanastomosis, various types of bilodegative anastomoses, transanal rectal resection with anastomosis, bladder plastic surgery, enterourerostomy, aorto-rhinoplasty shunt procedures, seam and nerve plastic, osteosynthesis, skin grafting, heart and aortic valve surgery with prosthetics, microvascular surgery with optics, craniotomy, endoscopic intracorporeal suture, laparoscopic appenductectomy on the simulant, laparoscopic surgery on the intestines, kidneys, endoscopic polypectomy of the stomach, laparoscopic resection of the ovarian cyst, myomectomy, amputation of the uterus with appendages, plastic of trachea, liver, kidney, heart and lung transplantation [1].

## Organization of the Club in a certain structure with partial student self-government.

Every year, in an average of 65 to 80 2nd–6th year students of medical and pediatric faculties are studying in the Club. Joining the Club takes place through the special exams in September. The President of the Club is a student who is elected by general vote. The work of the Club is carried out according to the curriculum, but mainly in the evening, free from classes and the educational process at the Department. The teachers of the Department work with students at extracurricular time. Surgical specialists are invited to the master classes: the Volgograd State Medical University employees and medical practitioners, surgical specialists. The relatively small and stable number of students allows teachers of the medical university work individually, transfer skills directly, share knowledge and experience with almost every student who is passionate about the surgical specialty

#### The forms of the Club's work.

The forms of work with students are: club meetings, master classes with specialists in surgery, independent work of students in the experimental operating department and in the section on biological material, work on simulators, older students and clinical graduates of the Club guidance tutoring, the annual intra-university Olympiad, participation in All-Russian and regional Olympiads, interuniversity sparring in surgery, elective sparring partnership with foreign students, active participation in working with the young medic school, participation in the contest «Best Student of the Year» on the subject of operative surgery and topographic anatomy; official trips to the country's training centers; a visit to training bases on manual skills of medical universities participating in the Olympic movement; manual skills contests. The Club students are also engaged in scientific work at the Department, speak at scientific student conferences of the university, other medical universities in Russia and abroad, participate in grants, have printed works and Patents for invention. Such a number of existing forms of training at the Club allows the student to choose a personal form for his development [1, 5, 8, 13, 14].

#### The Club's material base.

At the Department of Operative Surgery and Topographic Anatomy, there is an equipped experimental operating room, endovideosurgical stand and toolbox, microoptics, microsurgical instruments, training devices, and simulators. Surgical instruments, models for surgical suturing, the «Ethicon» simulator for developing the skills of surgical nodes. Simulators for intubation of the trachea, drainage of the pleural cavity, tracheostomy, catheterization of the bladder, venipuncture, for the study of the rectum with nozzles. Biological material: skin, tendons, liver, heart, blood vessels, intestines. The Department has thematic x-rays, CT and MRI data. The Department material base, communication with other departments of the university, within the framework of the Club and the preparation of the Olympic team, allows the Club members not only to get acquainted with basic skills, but also to work with professional equipment and tools, to try and master high-tech specialties and operations, to individually pick a case to their liking, receive directly from surgeons of the highest category, professors, candidates and doctors of science the most modern and advanced technologies experience.

#### The system of students' selection during the selection for the Surgical Club (exam) and at different stages of training in the Club (intra-university Olympiad).

Admission to the Surgical Club is carried out annually in September. Students entering the Club must pass preliminary master classes in surgical pigtail and surgical stitches and pass the entrance exams, which are determined by the student-members of the Club. They themselves take exams. Such a system eliminates «random» members in the Club.

To date, the rules for admission to the Surgical Club of the Volgograd State Medical University in 2019 are as follows:

Stage 1 - Tie a surgical pigtail. The standard is 5 cm in 30 seconds. Those who did not pass this stage are not allowed to the next one.

Stage 2 – Test for knowledge of anatomy and general surgery. Passing score is 18 correct points out of 20 questions.

Stage 3 – Oral answer to 2 questions from general surgery. The applicant is considered to answer correctly to both questions. Preliminary questions are not published.

Stage 4 – Knowledge of 18 basic tools. The applicant is considered to describe all the tools presented.

Stage 5 – Interview with the Club President. This stage does not affect the entry and does not contain questions on knowledge. It is for acquaintance with those who passed all the stages.

A member of a club is a person who has successfully completed all stages.

#### A multi-level mentoring system.

In the Surgical Club, there is a continuous transfer of knowledge and skills at different levels. It looks like this:

1. Group with primary training. First-year students assist the student tutors who have been members of the club for more than a year. The tutors-clinical residents (graduates from the Club) help all the members of the Club.

2. Mid-level group to work with a teacher. Student-teacher.

3. The highest level. Special group. Work with a specialist mentor. Student-Profile Specialist.

A personalized, individual approach to surgical skills development at the Surgical Club for 10 years has allowed to formulate the principle of continuity, which began from top to bottom: from the teacher and specialist surgeon to the student. Further, the experience gained is transferred from the older students and clinical residents (graduates) to younger students. As the part of the Club development, new practical experience in manual skills is transmitted directly to the Club members from highly qualified surgeons of the university and practical healthcare directly at the master classes. Further, the students independently work out the acquired skills and knowledge, have a connection with the master and the club managers. Over 10 years, the Club graduates have become top-level specialists, candidates of sciences, heads of surgical departments and are very pleased to teach master classes for the Club, they are members of the Olympiads jury.

#### Competitive principle (healthy competition).

In fact, this principle allowed the formation of the Surgical Club. Students annually participate in Olympiads of various levels: intra-university, regional tour of the Southern Federal District, All-Russian, surgical sparring, competitions, surgical games [8]. Competitions train healthy competition and excitement among the students, which gives energy and potential for promoting oneself as a specialist, expands interest in the profession, sets new challenges for achievement. At competitions in other cities, students are acquainted with other training facilities, centers of manual skills, specialists and students, which helps in the future to build their professional activities, to expand communication among colleagues.

#### The ability to choose the surgical section of the Club for classes and the development of manual skills in the chosen specialty.

The Club has sections: cardiovascular surgery, neurosurgery, microsurgery, urology, abdominal surgery, coloproctology, thoracic surgery, gynecology, ophthalmology, cardiopulmonary resuscitation, endovascular surgery section, the point man on the section is responsible for their work. The wide range of surgical specialties presented in the Club allows pick a case to the students' liking and improve in it. This fact directly reflects the personalized approach of the student education system at the Surgical Club.

## The system of students' stimulation and encouragement.

The very fact of obtaining highly qualified professional skills, personal contact with high-level specialists, the opportunity to demonstrate their success at the master-classes, the Olympics are already stimulating factors for the Club members. Active members of the Club are awarded with certificates, letters of acknowledgment from the Rector, they are presented with permits to the sports and recreation camps, medical student internship abroad [12]. Letters of acknowledgment are sent to the relatives of the students who won the Olympiads. According to the results of work, the number of letters received, the Club members receive extra points for admission to the clinical residency. The Club students' active participation in the life of the institute demonstrates them among the employers, they have priority for entering work at the medical university, and practical healthcare.

The results of the system of personalized medical education tested at the Surgical Club of the Volgograd State Medical University include the following:

• The students involved in the Surgical Club academic rating is on average 90–92 %, and it grows among students from the moment they join the club until the graduation.

• The average score for exams in the discipline «Operative surgery and topographic anatomy» is 4.6–4.8.

• The Club's Olympic battles include annual victories at the All-Russian and regional intra-university Olympiads, surgical sparring, and surgical contests. The Club members are also in demand at other Olympiads in other disciplines, where they win prize places.

• The members of the Surgical Club, while already studying at the university, have printed works, successful speeches at scientific and practical conferences in Russia and abroad, Patents for inventions.

• 100 % admission of Club members to clinical residency after the graduation, as graduates of the Club have an excellent specialized professional theoretical and practical training in surgical specialties, trained courage and will.

• Excellent reviews about the graduates of the Club-Clinical Residents from their leaders, employment in a good work-place after the graduation from **41** 

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clinical residency, as the Club graduates already independently perform operations on a par with practical doctors already in clinical residency, have trust from managers.

• 48 Club graduates are working as doctors not only in Volgograd in practical healthcare, the Volgograd State Medical University, but in other cities of Russia and abroad, specializing in surgery, oncology, transplantology, cardiovascular surgery, traumatology, pediatric surgery, urology, gynecology, ophthalmology, ENT, neurosurgery, intensive care, plastic surgery, endovideosurgery. Among the graduates, there are already candidates of medical sciences, heads of the surgical departments. The graduates always keep in touch with almamater, which develops and supports the generation continuity, support and collective spirit in the professional medical community.

The developed system of personalized medical education at the Volgograd State Medical University has proved its viability and effectiveness during the 7-year experience of the discipline «Manual Skills Course with the Basics of Clinical Anatomy» teaching and 10-year experience of the students' Surgery Club work at the Volgograd State Medical University.

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### СОЦИОЛОГИЧЕСКОЕ ИССЛЕДОВАНИЕ ОЦЕНКИ ВЫПУСКНИКА МЕДИЦИНСКОГО ВУЗА К ВЫБРАННОЙ ПРОФЕССИИ

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В статье рассматривается оценка и отношение выпускника медицинского вуза к выбранной профессии. Было проведено социологическое исследование среди студентов пятого и шестого курсов лечебного, педиатрического, стоматологического, медико-профилактического факультетов Астраханского государственного медицинского университета. Проведен качественный и количественный анализ анкет («Отношение студентов Астраханского ГМУ к получаемому образованию»). В исследовании рассмотрены и протестированы две группы: юноши и девушки старших курсов медицинского вуза, определено их отношение к получаемому образованию в вузе. Проведен социологический опрос с использованием авторской анкеты, состоящей из 15 вопросов. Всем исследуемым были адекватно разъяснены цели исследования, а также их юридические права при условии добровольного участия в этом исследовании. В исследовании были рассмотрены мотивы выбора данной профессии у выпускников медицинского вуза, а также планируют ли выпускники медицинского вуза по окончании обучения остаться в системе здравоохранения и каковы причины отсутствия желания работать в медицинских учреждениях. В ходе исследования определили тенденции к утечке кадров по результатам проведенного опроса. Была определена оценка выпускников к выбранной профессии.

Ключевые слова: студенты-медики, профессия, медицинский вуз, выпускник, оценка к выбранной профессии.

### RESULTS OF THE SOCIAL RESEARCH OF THE RELATIONSHIP OF STUDENTS OF THE MEDICAL UNIVERSITY TO OBTAINED EDUCATION

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The article examines the attitude of students of a medical higher education institution to the education they receive. On the basis of the Astrakhan State Medical University, a sociological study was conducted among the fifth and sixth year students of the medical, pediatric, dental, medical and preventive faculties. The designated category of students answered the questions of the questionnaire («Attitude of students of the Astrakhan State Medical University to the education they receive»). The study examined and tested two groups – young men and women of graduating courses of medical high school, their attitude to the education received at the university was determined, a sociological survey was conducted using an author's questionnaire consisting of 15 questions. The study examined the motives for choosing this profession among medical university students, as well as the prospects for continuing to stay in the health care system after graduation, and what are the reasons for the lack of desire for graduates of a medical university to work in health care institutions. In the course of the study, the tendencies towards the leakage of personnel were determined based on the results of the survey. It was determined the relationship to the education received.



Key words: students of medical high school, profession, medical college, graduate, attitude to the education.

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The relevance of the study is due to ongoing changes in the health care system, which are related, in particular, to the employment and subsequent professional activities of medical graduates [1, 2]. «The Health Development Strategy of the Russian Federation for the Long-term Period 2015-2030» provides for the growth perspective for specialists who have received education in medical universities and 3 years of work in a medical institution that provides primary health care, with subsequent admission to residency. Only when these conditions are fulfilled, the graduate gets the opportunity to continue his professional activity as a specialist doctor [3]. The empirical study carried out within the framework of the tasks set revealed the definition of the attitude of the students of the medical university to the education received, and also constructed a number of questions requiring detailed answers on many key points that require scientifically substantiated answers. The purpose of the sociological research was to determine the leading factors in relation to students in the chosen profession, to assess the attitude towards the chosen specialties of students in general. The sociological research was conducted among the fifth and sixth year students, four graduating faculties in the main specialties: «Medical», «Pediatrics», «Stomatology», «Medicoprophylactic case», in the Astrakhan State Medical University. The study involved 3000 students during the period from January 2015 to April 2018, who are enrolled in this medical college, living in the territories of the Russian Federation and CIS countries. Students are equal in age (average age 22.3) and sex (59.5 % of the girl, 41.5 % of the young man). The examination was carried out («The attitude of the students of a medical university to the education they receive»). The proposed sociological survey was conducted using an author's questionnaire consisting of 15 questions.

A significant number of students of the Astrakhan Medical University are trained in the specialty «Medical business» (35.3 %). A slightly smaller share is occupied by another specialization «Pediatrics» (29.3 %). These specialties are leading, constitute the widest range of narrow areas, and require careful preparation in each specific field of medicine. Most of the fifth and sixth year students are trained on a paid basis of training - 72.6 %, only 27.4 % have the opportunity to study on a budget. Explaining the reasons for choosing a medical university, the most popular were the answers «I find it difficult to answer» (34.7 %) and «the closest to the others is to the house» (29.1 %). It should be noted that the prestige of the university and the quality of education took only an insignificant share - 5.6 % and 12.9 %, respectively. However, the results showed that 63.7 % of medical students at the end of the training plan to stay in the health care system. Approximately, 25.8 % of students will choose another medical specialization. The lowest percentage (1.6 %) will not be engaged in medicine.

Analyzing the answers received, 88.6 % of students plan to start professional activity in practical health care, the small attraction of work in another sphere is noteworthy. In a private clinic, 10.4 % of respondents plan to work, 9.6 % of those who are undecided with the sphere of activity. The majority of students expressed a desire to continue their studies at the university in residency (87.1 %), a small proportion want to undergo postgraduate studies (1.6 %) or abroad (1.6 %).

According to the survey, 9.6 % of medical students plan to start professional activities in practical health care. It should be noted that most of the students surveyed have a material opportunity to enter paid internship - 57.2 %. Among students who do not have the opportunity to study on a budget is 22.5 %. There is also a relatively low self-esteem in the level of graduate training for practical medical activities. 35.5 % do not consider themselves sufficiently prepared for independent work. The level and quality of training in the university they consider low, respectively, this is the leading cause and disappointment of the chosen specialty. At the present stage of health care reform, the changed code of medical practice for students of medical universities, this side of building up work experience in the specialty has a very weak basis. The main reason for the low assessment of their professionalism is that the graduates of a medical school are called: a low level of quality of medical and nursing practice during university studies (58.1 %) and a low level of theoretical knowledge obtained within the university (52.6 %). However, the listed reasons did not disappoint most students (71.7 %). Among the disappointed profession was 12.9 %. 15.3 % of respondents were indifferent to their profession.

The trend towards the leakage of personnel based on the results of the survey is relatively small (25.0 %). However, students who would prefer a higher salary than work in the medical field -19.3 %. That is, they make up this percentage of a group of students who believe that the medical profession will not allow them to receive high income in the future. At the time of the survey, only 12.1 % of respondents combine work in the medical profession and training activities. Student employment is a way of labor and personal adaptation of the future specialist to the requirements of the modern labor market and gives a competitive advantage in comparison with non-working students. It should be noted that a significant percentage of medical students assess their health as a satisfactory 34.6 % and 6.4 % of students estimate that they are unsatisfactory. For example, 33.0 % of graduates suffer from a decrease in their level of vision. 42.7 % of graduates complained of constant or recurring headaches. This, in turn, is a signal of alarm, because 65.3 % of students at a medical school believe that high professionalism depends on one's own health.



According to the survey, it becomes obvious that the graduates expect support and help with employment from the leadership of the university (70.1 %). According to the results of the sociological survey, it turned out that only about half of the students surveyed consider themselves prepared for the profession they have chosen. Most graduates of the Astrakhan Medical University plan to continue working in the healthcare system after graduation, which undoubtedly determines a high level of professional orientation. «Leakage» of cadres is insignificant, the main reason for leaving practical medicine is the insufficient salary of a doctor. For graduates with a good level of medical training, there is a high motivation in the chosen profession, as well as a priority side of the specialty, which is the content and meaning of the doctor's work.

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### ЭТИЧЕСКИЕ ПРОБЛЕМЫ ПОДГОТОВКИ КЛИНИЧЕСКИХ ПСИХОЛОГОВ В КОНТЕКСТЕ ИСПОЛЬЗОВАНИЯ ИМИ ИНТЕРНЕТА ДЛЯ ПРОВЕДЕНИЯ ПСИХОЛОГИЧЕСКОЙ ДИАГНОСТИКИ И КОРРЕКЦИИ

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Рассмотрены этические проблемы подготовки студентов – будущих клинических психологов в контексте использования ими Интернета для проведения психологической диагностики и коррекции. Показано, что данная практика предполагает многие не только психолого-педагогические, но и этические проблемы, которые в настоящее время в отечественной литературе недостаточно проработаны. Сделан вывод о том, что проведение психологической диагностики и коррекции с помощью Интернета практикующими (в том числе клиническими / медицинскими) психологами будет постепенно приобретать всё более широкий масштаб. Поэтому учащиеся должны иметь знания об этике и специфики использования Интернет-технологий в данных направлениях. Эти знания могут быть получены в рамках соответствующего факультатива на 5-м курсе (10-м семестре), а более раннее использование студентами подобных Интернет-технологий нежелательно.

*Ключевые слова:* психологическое образование, этические проблемы, использование Интернета для психологической диагностики и коррекции.

### ETHICAL PROBLEMS OF PREPARING CLINICAL PSYCHOLOGISTS IN THE CONTEXT OF THEIR INTERNET USE FOR PSYCHOLOGICAL DIAGNOSIS AND CORRECTION

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In the article ethical problems of students training as future clinical psychologists are considered within the context of using the Internet for psychological diagnosis and correction. It was shown that this practice supposes a number of psychological-pedagogical but also ethical problems which are not sufficiently dealt with in domestic publications. It was concluded that psychological-pedagogical diagnosis and correction with the Internet by practicing (including clinical/medical) psychologists will be more widely used. For this reason students should have some knowledge of ethics and specific character of Internet technologies application in this field. This knowledge may be obtained within the frames of the corresponding elective courses in the 5<sup>th</sup> year (the 10<sup>th</sup> term) and earlier application of these Internet technologies is not advisable.

Key words: psychological education, ethical problems, Internet application for psychological diagnosis and correction.

In the second decade of the XXI century clinical/ medical psychology has become a widely spread profession and various issues of training and practice of these specialists are attracting more attention. In particular, research is being done into ethical issues [1, 2, 4]. At the same time, psychological diagnosis and correction by means of the Internet including on-line is getting more widely spread among practicing psychologists in Russia, the evidence of which is the scientific-practical journal «Psychological counseling on-line» that appeared in 2010. In some publications the authors consider ethical issues of using electronic media by «general» psychologists [3, 5].

However, students, as future clinical psychologists, also started using the Internet with this purpose. According to the anonymous questioning of 42 graduates of the Clinical Psychology department of the Volgograd State medical university in January 2019, 80,9 per cent of the 4<sup>th</sup> year students did the empirical part of their course paper exclusively on direct contacts with clients/patients, 14.3 per cent contacted their clients/ patients both directly and through the Internet, 4.8 per cent found difficulty in replying, though there were no answers that the empirical part of the course paper was done only based on contacts through the Internet. The same results were obtained concerning the empirical part of their graduation paper, 80.9 per cent of the students did it exclusively on direct communication with clients/patients; 15.7 per cent - both on direct contacts and through the Internet and 2.4 per cent could not answer if the empirical part of their paper was written exclusively on the ground of contact with clients/patients through the Internet.



So, at least every sixth or seventh graduate of the Clinical Psychology department used the Internet not only for reading theory (sources on the subject) but also to apply practical skills (psychological diagnosis, interpretation of the results, psychological correction of the disorders revealed/negative manifestations). Even the 2<sup>nd</sup>-year students who just start familiarizing themselves with the basics of psychological diagnostics, use a mobile phone to enter the Internet to question a single (!) person (this person turned out to be such a «rare» individual as a student). In fact, this is an evidence of institutionalization of social practice to use the Internet by future psychologists for psychological diagnosis and correction. The picture looks ironic: students whose major is clinical psychology study it full-time (at least at the Volgograd state medical university) but obtain practical skills by distance learning. Though, in other humanitarian specialties, in sociology in the first line, using the Internet while doing the empirical part of sociological researches in final papers is still much more widespread.

The existing situation (doing empirical research work by students) using various Internet technologies seems evident: at present we see how our life is «internetizing», communication by means of the Internet seems more natural and routine to teenagers and young adults than direct face-to-face communication especially with strangers. A large part of the first-years students at the Clinical Psychology department feel a certain discomfort and even fear communicating directly with their fellows (some of them experience fear of communication in the 2<sup>nd</sup> year, too).

At the same time, professional activity of the clinical (medical) psychologist requires a direct face-to-face communication with a client. However, if students of General Medicine, Pediatric or Dentistry departments start dealing with patients in the second term of the 3d year in all clinical subjects they study, the curriculum of Clinical Psychology department does not suppose this approach. Besides, there are 20–25 students in each group and it is difficult, though possible, to organize psycho-diagnostic work with each students. Psycho-correction is quite different: the instructor must receive the client's consent to psychological correction session in presence of a large number of students and later he should assess psychological correction sessions conducted by the students. To some extent, this problem may be settled by showing video recordings of such sessions conducted by experts; after watching a video, 2-3 students would be able to reproduce some parts of it under the instructor's supervision.

In general, using various Internet technologies by students to obtain practical skills (carrying out empirical research) gives rise to psychologicalpedagogical and ethical problems that overlap in many aspects and have not been analyzed in domestic sources yet. In particular, the following problems that are most urgent in undergraduate training may be considered.

In the first turn, an important question arises if the students can use the Internet technologies to conduct psycho-diagnostics and psycho-correction. If they can, must they do it independently or under the instructor's supervision? In which year of training is this activity possible?

Among the more special questions concerning Internet technologies we can mention that one of the key problems of bioethics, the problem of confidentiality of the data obtained which is not solved but, on the contrary, is getting more urgent, especially taking into consideration the fact that students widely use various virtual social media (when not only two people but a lot more have an opportunity to read something «curious»), though the students are unable to realize potentially serious consequences of such approach. Besides, it is possible that somebody will wish to get some information from social media concerning the person who is being examined.

Most part of people who need psychologist's advice are 50–60 years old and even older and many of them do not trust or are biased to modern «technical tricks». As a consequence, the main part of clients is limited exclusively by «advanced», relatively young people that makes studying basics of psycho-diagnostics and psycho-correction one-sided.

An important, informatively significant component of psycho-diagnostics and psycho-correction is client's behavior observation (liveliness of facial expression, manifestations of the autonomic nervous system, etc.) Internet technologies (even on-line) do not allow to master this skill.

Besides, it is quite doubtful that psychodiagnostics could be conducted on-line with a visual control (e.g. the student could watch on Skype the client filling in the questionnaire for an hour). As a rule, the client is given a test and instructions to it and some time later (an hour, a few hours and even days) the client sends the answers to the statements in the questionnaire. But in this case there is no guarantee that the questionnaire was filled in by this very person and not somebody else.

What are the restrictions concerning the offered methods of psycho-diagnostics on the Internet? In particular, is it justified to use many neuropsychological and projective techniques, pathopsychological approach that supposes active communication with a client especially while assessing their thinking and intellect? What exercises or assignments may be given in the process of psycho-correction and where are the borders of therapeutic interaction – these questions are also ambiguous.

Clinical psychologist training is aimed at their work in the social or medical institutions, which is

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most probable. There they are supposed to familiarize themselves with the patient's / client's histories before they start direct communication. It is reasonable (or necessary) to have information about real / possible problems of a certain person and would be able to more precisely make up the work tactics instead of proceeding from the version provided by the client. Internet technologies, on the contrary, make the clinical psychologist ignore this important aspect of their professional activity in the future.

It was in 1951, when K. Levin noted that «it is easier to change individuals when they are in a group than each of them separately», though how can a student carry out a group psycho-correction if its basics were mastered only by means of Internet technologies?

One should also keep in mind that during a session of psycho-correction the computer may fail and besides it is easy to cancel the session by the client (in case the client is displeased or the session lasts longer than expected and the client must do something else, etc.)

Summarizing the foresaid, we can make the following conclusion: conducting psychological diagnostics and correction by means of the Internet by practicing (including clinical/medical) psychologists will gradually be more widely used. For this reason the students must have knowledge of ethics and specific character of Internet technologies application in these fields. This kind of knowledge may be obtained within the frames of the corresponding elective course in the 5<sup>th</sup> year (the 10<sup>th</sup> term) and earlier application of Internet technologies is not advisable.

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### ПРИНЦИПЫ «МЕДИЦИНЫ 4П» В ГИГИЕНЕ ТРУДА: ЭТИЧЕСКИЕ ПРОБЛЕМЫ (НА ПРИМЕРЕ ПРОФЕССИИ «СТАНОЧНИК ПО МЕТАЛЛООБРАБОТКЕ»)

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В последнее время всё большее распространение получает абсолютно новая модель здравоохранения – так называемая 4П-медицина, медицина будущего. Свое название она получила от четырех основополагающих принципов: персонализации, предикции, превентивности и партисипативности. Данная модель является приоритетной для всей системы здравоохранения нашей страны, в том числе для такой отрасли профилактической медицины как гигиена труда. При этом реализация принципов «Медицина 4П» в гигиене труда затруднена в связи с наличием комплекса этических проблем. В связи с этим необходима разработка новых методических приемов и нормативных документов, регламентирующих данную деятельность в условиях реального производства.

Ключевые слова: предикция, персонализация, превентивность, партисипативность.

### PRINCIPLES OF «4P MEDICINE» IN OCCUPATIONAL HYGIENE: ETHICAL PROBLEMS (ON THE EXAMPLE OF «MACHINE TOOL OPERATOR IN METALWORKING»)

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According to studies carried out in recent years, an absolutely new model of health care is becoming more common – the so-called 4P medicine, the medicine of the future. It is based on 4 fundamental principles: Personalization, Prediction, Prevention and Participation. This model is a priority for the entire healthcare system of our country, which includes such branch of preventive medicine as occupational hygiene. At the same time, the principles of «4P Medicine» in occupational hygiene are difficult to achieve due to the complex of ethical problems. The necessity of new methods and regulations's development for governing such research in the conditions of real production is revealed.

Key words: prediction, personalization, prevention, participation.

**Prediction** allows to predict respondents' predispositions and the health status. The scientific basis for predicting the health status changes of workers is a risk assessment method in occupational health, which allows to obtain quantitative values of possible damage to public health from harmful factors exposure of the working environment. Occupational risk assessment is carried out in the implementation

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of the state sanitary and epidemiological supervision, production control, social and hygienic monitoring according to the requirements by Rospotrebnadzor representatives [7]. At the same time, it is necessary to take into account all risk factors for workers' health: social, behavioral, lifestyle factors in order to make an objective forecast of changes in the worker's health status. Thus, the changes in treatment management are discussed in State of Health Report in Europe, it is underlined the importance of «complex protection and maintaining the health at work» but not only the preventing measures, including occupational diseases (quoted after M. Darisheva) [2].

The behavioral risk factors identification for the workers' health poses a number of ethical problems, since a number of questions (for example, the survey method) are personal, sometimes intimate. Often, respondents are embarrassed and unwilling to answer, as this survey does make sense for them. To obtain true, reliable results, a special trust relationship is obligatory between the respondent and the interviewer. Thus establishing contact with the respondents is also very important, since the workers have no obligation to discuss the proposed topics, especially such as «bad habits», «family characteristics», «reproductive behavior», and etc. There is also no respondents' interest and, often, effective conviction of this survey due to the insufficient level of education and motivation of the respondents. The way out is to issue «bonuses», but it presents some ethical difficulties for the occupational hygienist. While conducting study among «machine operator for metalworking» such bonuses were: the prolonged break time for rest in agreement with the employer and presents (pens).

Personalization is fully focused on the respondents. Personalized medicine – is generally assumed to be a new direction in medicine. In fact, medicine began as a personalized one, only this term was not known before [8]. Similarly, in occupational health, a personalized approach has always been presenting when assessing the health status of workers performing their professional duties in specific conditions of the working environment. This approach is also carried out through preliminary and periodic medical examinations in accordance with the requirements of order  $N_{2}$  302 [6], the purpose of which is to dynamically monitor the workers' health, timely detection of diseases, initial forms of occupational diseases, early signs of exposure to harmful and (or) hazardous production factors, the risk groups formation for the occupational diseases. Such examinations are mandatory, carried out at the expense of the employer.

At the same time, nowadays it is important to identify and assess risk factors (occupational, behavioral, social), and to predict disorders in the workers' health on their basis. The implementation of this principle touches the number of ethical problems and requires special efforts to involve the respondent in hygienic research. First of all, there are no obligations, normatively enshrined, to be examined for the identification of risk factors; the existing documents are of advisory nature [4]. Conducting risk assessment, the researcher must have the conviction skills to persuade in the importance of such work, as he has to deal with potentially healthy people. For example, when assessing the behavioral risk factors of machine operators for metalworking, about 11% of workers refused to participate in this study due to its lack of obligation. It is also difficult to obtain permission with the employer to conduct this study; they believe it may adversely affect the «image» of the production. Another peculiarity of research in occupational health is that the results of the survey are issued in the form of «impersonal» protocols, since one of the conditions for consent to participate in the physiological and hygienic experiment is confidentiality and anonymity. For example, performing a complex of functional tests that characterize the degree of physical fitness, the machine operators of a young age (18-29 years old) were extremely reluctant to experiment, suggesting that the results might become known to other participants. At the same time, the machine operators of the older age group (30-49 years old) did not bother the problem of a possible «leakage» of information. Therefore, it is necessary to take into account the age of workers in the formation of the observation groups.

**Prevention** – preventive measures, the next stage after determining the risk factors. It consists either in the complete prevention or reduction of the risk of functional deviations and workers' health disorders in a particular profession. Undoubtedly, this is the main principle of 4P medicine in occupational health; the priority is to increase the effectiveness of primary prevention – measures aimed to prevent the occurrence of the disease, i.e. the identification and correction of risk factors.

Individuals are forced to make personal decisions which include the proposed preventive measures in the current social and economic conditions; it means the transfer to an open society, unlike a closed (collectivist) one [5]. According to V.R. Kuchma [3], the prevention of epidemics remains the only collective preventive interest. The personal interests, the idea of which is determined by the psychological characteristics of the worker, the level of his education, the absence of restrictions and prohibitions imposed by society are the rest.

**Participation** is focused on a respondent and involves him directly in the research process. The fourth P is also sometimes treated as a «partnership». The implementation of the whole concept becomes possible due to this partnership between the occupational health worker (the researcher) and the worker. The respondent must be motivated to participate in prevention and must make an informed choice. In order to establish such partnerships, a great literacy is needed **51** 



about possible occupational and behavioral risks to the worker's health, promoting a healthy lifestyle; this is the basis of 4P medicine.

Thus, the 4P model is a priority for the entire healthcare system of our country, which includes such branch of preventive medicine as occupational hygiene. The principles of «4P Medicine» as a whole will allow to organize medical care in a way that maximum efforts are transferred to prevent the disease, rather than build up super-expensive technologies for treating patients, which will lead not only to an increase in the number of healthy people, but also to a significant economic benefit from the use funds allocated for the provision of medical care [1]. At the same time, the principles of «4P Medicine» in occupational hygiene are difficult to achieve due to the complex of ethical problems, which cause the importance to develop new methods and regulations for governing such research in real production.

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## ПРИМЕНЕНИЕ ИНТЕГРАЛЬНОГО ПОДХОДА В ЭТИКЕ РАДИОЛОГИЧЕСКОЙ ЗАЩИТЫ

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Основная задача данного исследования – продолжить открытый диалог между представителями атомной отрасли и заинтересованной общественностью по вопросам этики принятия решений в ядерной энергетике. Авторы рассматривают указанные проблемы с точки зрения интегральной философии и дифференциации уровней сознания. Исследование состоит из двух частей. Первая часть, публикуемая в настоящем издании, посвящена анализу этических платформ радиологической защиты населения и принципов биомедицинской этики с точки зрения уровневого подхода. Даётся сводная таблица отображения этических коррелятов радиационной безопасности и принципов биоэтики.

*Ключевые слова*: этическая платформа, биомедицинская этика, радиационные риски, уровни сознания, интегральная философия.

### APPLICATION OF THE INTEGRATED APPROACH TO THE ETHICS OF RADIOLOGICAL PROTECTION

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The main objective of this study is to continue an open dialogue between representatives of the nuclear industry and the interested public concerned about the ethics of decision-making in nuclear energy. The authors consider these problems from the perspective of integral philosophy differentiating levels of consciousness. The study consists of two parts. The first one described in this paperis aimed to analyse ethical platforms of radiological protection and the principles of biomedical ethics using the level approach. The summary table of ethical correlates of radiation safety and principles of bioethics is presented.

Key words: ethical platform, biomedical ethics, radiation risks, levels of consciousness, integral philosophy.

Integral philosophy has been gradually formed in modern discourse originating from the global evolutionism of A. Bergson and P. Teilhard de Chardin, moving through psychological theories of personality development stages (J. Piaget, L. Colberg) and finally arriving to integral psychology (K. Wilber). A more rigorous mathematical substantiation of the integral approach was developed through such synthetic approaches as the calculus of forms (L. Kauffman, J. Spencer-Brown) and second-order cybernetics (H. Foerster, «Cybernetics of Cybernetics»). A special role in the development of the spirit of integration was played also by the Russian philosophy of allunity (V.S. Solovyov, P.A. Florensky, N.O. Lossky), which at the end of the twentieth century emerged from oblivion and evolved into a cause celebre around the world.

In modern biomedical ethics, there are approaches that use the concept of levels of consciousness of

the integral philosophy. For simplicity we differentiate only between two such levels, naming them conditionally «Small I» and «Big I». We use the descriptive definition of V.I. Moiseyev: «Anything tolerable for Small I Big I can tolerate as well (the point of inclusion of Small I into Big I). In the meantime, there is such suffering that Big I can endure, but it can't be endured by Small I (the point of distinguishing Big I from Small I)» [1]. The integral approach allows for the existence of Small I, and Big I, either in different people or at different times in the same person. The transformation of Small I into Big I is also possible. We have made an attemptto have a look at the basic ethical paradigms from this perspective.

#### **Basic ethical theories**

Levels of consciousness are directly related to discussions of radiological protection principles and the correlation between these principles and principles **53** 



of biomedical ethics. A lot of contradictions arise because of the lack of a level approach to the problem. Some of the ethical principles are successfully implemented, figuratively speaking, at the level of the Small I, while the others are more relevant to the level of *Big I*. The same pattern could be observed for the principles of radiological protection.

We consider three types of ethical theories: consequential, deontological and theories of virtue.

Consequentialism (from Latin consequents – «consequence, conclusion, result») is a group of moral theories holding that a criterion for moral judgement is a result (consequence) of one's conduct. Thus, from the consequentialist standpoint, there will be a moral act that produces a good outcome as a result or consequence. Historical forms of consequentialism were eudemonism, hedonism, utilitarianism (the greatest happiness for the greatest number of people) and reasonable egoism. Consequentialism can also be called teleologism in ethics (from the Greek  $\tau \epsilon \lambda \epsilon \iota o \varsigma$  – «final, perfect, target»), because in accordance with this ethical theory a goal is more important than means used to achieve it. For this group of theories the transformation of the *Small I* is not necessary.

Deontology is literally «the science of duty». The term was introduced by J. Bentham in «Deontology or The Science of Morality» to denote the ethics theory and morality in general. Later, the concept of «deontology» narrowed down to define a group of ethical theories, considering particularly the «sense of duty» as a moral basis. At the same time, duty can be understood either as the inner essence of a person reflecting the Kant's categorical imperative, which is a result of *Small I* transformation into *Big I*, or as an external normative rule that can not be transgressed – and then it is possible to act effectively at the level of *Small I* (for example, medical deontology).

Medical deontology entirely falls within the framework of understanding obligation as an external rule; otherwise it would be too subjective and could not regulate the activity of medical specialists. It is also important to note that the subject of the study of medical deontology is larger than the subject of ethical deontology, since, along with studying morality, it studies and regulates an interaction between a doctor and society (state), patients and their relatives, other doctors and medical personnel. So medical deontology includes the following areas: issues of compliance with medical secrecy; measures of responsibility for patients' life and health; problems of relationships within medical community; problems of interactions with patients and their relatives; rules applied to sexual contacts in doctor-patient relationships. Vertue ethics while judging the morality of conduct focuses on moral qualities of a person rather than on consequences of actions or non-actions. In order to act virtuously a person must first have such an important quality as virtue («zhen», righteousness, etc.), and *then* his actions will

be underpinned with this quality and become moral. Moral actions are actions performed by a virtuous person, and not vice versa. Obviously, this approach involves transformation of a personality from *Small I* to Big I.

In some situations, all three ethical platforms can be exhibited in the same actions, but motives for these actions will be fundamentally different.

#### Ethical platforms of biomedical ethics principles

On the one hand, biomedical ethics might be considered as a specification of general medical ethics originating from Hippocrates; on the other hand, there is a significant difference distinguishing the former from the latter which is the transdisciplinary character of biomedical ethics [2]. Bioethics involves a variety of human activity dimensions: medicine, biology, law, politics, the military industry, technical and human sciences (psychology, philosophy), etc. Every year a number of problems falling within its competence increases. That is why to develop ethical strategies ICRP (International Commission on Radiological Protection) developed its ethical strategies based on principles of biomedical ethics by T. Beauchamp and J. Childress: respect for patient autonomy (Dignity); nonmaleficence meaning «above all, do no harm» adopted from Hippocrates (Non-maleficence); beneficence defined as doing good to others following moral obligations (Beneficence); justice meaning fair distribution of advantages and disadvantages among groups of people (Justice). But if for medical specialists all these principles fall within the scope of external deontology, therefore they are to be fully complied with, in the field of radiation protection such unambiguous interpretation is not always possible.

Moreover, adjusting the principles to radiological protection context is still ongoing. Thus, in 2017 Annals of ICRP provided an updated list of principles of bioethics listing the combined principle of beneficence / non-maleficence, the principle of autonomy, the principle of justice and a newly presented *principle of prudence* [3].

The principle of prudence migrated to ethics from the principles of radiation safety (justification, optimization, limitation) which are discussed below. One of the leading experts of the ICRP, Abel Gonzalez, believes that this principle covers the whole system of radiation safety regulations, being the fourth and the most important practice-applied principle. Indeed, prudence is related to specific activities rather than to a common moral rule [4]. Apparently, there is a difference in understanding the concept of prudence. When it comes to a practice-applied principle, prudence means system thinking skills, abilities for logical reasoning enabling predictions of event outcomes, common sense essential fordeveloping a system of safe use of radiation in all spheres of human life. Speaking about prudence as an ethical principle, we imply that a person who takes decisions on radiation safety faces a moral dilemma. A specific feature of the industry is that many processes are not yet clear, what means that extrapolation is not feasible, and in addition, it is impossible to control of certain environmental factors (meteorites, tsunamis, earthquakes) and guide social psychology (human factor). And this means that there is a need for a renewed ethical value that is prudence (intuition, wisdom, foresight) that does not originate from previous experience, but allows to make best decisions in situations of information deficit and hold responsibility for these decisions.

It is important to understand that an ethical principle and an ethical value are not the same concept although the boundary between the two is vague. A principle denotes a general rule: do like that, and a value emphasizes the importance of nurturing or cultivating in one's character some quality (kindness, obedience, modesty, etc.): be this way. Thus, prudenceforesight is not a principle, but rather a value. We can not demand from a person of turning on intuition, looking into the future; but we can impel him to transform his consciousness and to develop a higher level of the inner I which will possess a quality of prudence unavailable for Small I.

A Swedish philosopher Sven Hanson proposed a beautiful analogy for better understanding the ethics of virtue: a compass [5]. Obviously, to make a compass work a pole attracting an arrow is needed. Only in ethics, this pole is located not outside, but deep inside a personality being an attractor Big I, that discovers new horizons for cognitive possibilities for a person, with the targeted prudence among them. Thus, we may observe first indications of a correlation between prudence as an ethical value in radiation protection and ethics of virtue.

Now we consider the ethical platforms of the remaining principles.

Despite its youth the majority of authors set the principle of respect for the autonomy of an individual (Dignity) at the top of the list of the principles of biomedical ethics. This could be expected, since those properties which are acquired the latest during the evolution are usually the most vulnerable and are most valued as well ( cf. mind in biota, spirituality in society). The autonomy of a person is a rejection of a traditional paternalistic model in which a doctor concludes what is good for a patient (how a father decided what was better for his child, and a monarch decided what was better for his people). According to the principle of respect of the autonomy of an individual, a reliable ethical decision is based on mutual respect of a doctor and a patient and their active joint participation in this process, which requires competence, patient awareness and voluntary decision-making. The ethical basis of the principle of individual autonomy is the recognition of its independence and the right to self-determination. This is an advanced payment that we make to anyone, assuming that any person already has or at least can have Big I and is able to bear the burden of choice. In fact, most procedures that implement the right of autonomy are still nominal: patients are burdened by the need to choose, while physicians get angry because of the need to explain every recommendation and agree them with patients; the public expects the government and scientists find a way to protect hem from the nuclear threat, while scientists are burdened by the need to reveal 'blindspots' in knowledge to the publics. However, even still being nominal the principle of autonomy is a huge step forward in building favorable setting for transformation of consciousness.

Once Immanuel Kant postulated a future principle of autonomy as a variation of the categorical imperative definition: «Act in such a way that you treat humanity, whether in your own person or in the person of any other, never merely as a means to an end, but always at the same time as an end». Since the emphasis is placed on some unconditional virtue, potentially existing in any person, then this principle, as well as prudence-foresight, should be attributed to the ethics of virtue.

The principle of justice refers to the deontological group, because its core is a certain type of obligation: everyone should receive as much as it is owing to him. And since the existing criteria for the distribution of a limited resource do not take into account the internal hierarchy of consciousness, but are applied based on external parameters (equality, reasonable needs, vital needs, market exchange), that can be taken into account and put into words, then, of course, about it relates to external deontology.

Finally, let us talk about the principles of «nonmaleficence» and «beneficence». The tendency to be combined as a single synthetised principle of «beneficence / non-maleficence» indicates an attempt to stay within the framework of external deontology traditional for medical ethics. However, in our opinion, this will be a simplification of the situation and stepping back from already positions gained on the way to a 'deeper' human morality. A considerable difference is observed between the minimum required principle of «non-maleficence», which can be considered as the starting point forany moral relationship, and which requires following the positive principle of «beneficence», that is not universal. If «beneficence» were our duty, we would not survive even one day, having given away all our property, as well as all available healthy organs to those people who need them. Fortunately, «beneficence» is a choice of our free will, which is manifested as another version of the categorical imperative: «Act only according to that maxim whereby you can at the same time will that it should become a universal law». Only the deeper level of I, which comprises the requirements of this 55

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imperative, is able to do good in a responsible manner *without imposing its will and its values upon other people.* If the principle of «beneficence» remains a prerogative of purely external deontology, then it inevitably degenerates into a paternalistic «good by force».

Thus aiming to simplify the general concept the ICRP still keeps the unconscious paternalistic tendency of the scientific community to distrust the publics and limit activities of all stakeholders by compliance with rigid external regulations, what becomes an obstacle for a constructive dialogue in the public sector.

#### Principles of radiation protection and their relevance to the principles of bioethics

In this section we consider the basic principles of radiation safety aiming to justify their use with ethical grounds and to analyze their relevance to the principles of bioethics [6].

The principle of justification implies any use of radiation must be forbidden if the benefit a person / society receives from it is below the risk of potential harm caused by radiation. Once risk-weighing is involved in this standpoint, then the principle should be referred to the platform of utilitarianism. For this platform Sven Ove Hansson offers the balance as a metaphor for weighing [5]. To make a moral judgement on actions that one can choose between, benefit and harm associated with each of the alternatives should be specified and weighted, and the one having the largest benefit should be chosen. Interestingly, radiology has an emphasis on banning alternatives that do more harm, but, in fact, this means approval of alternatives that give more benefit. For public approval, this wording of the statement seems to be more strict and safety ensuring, but any utilitarian approach agrees to refund expenses in advance, since following this approach a goal is of higher importance than the means used to achieve it. Note that there are no consequentialism-based principles in bioethics, reflecting that the principle of justification has no links with bioethics.

The principle of limitation implies that the requirement to keep radiation exposure doses / dose rates within individual limits set by the Federal Laws of the Russian Federation and the current Radiation Safety Standards should be followed by all organizations and individuals responsible for levels of radiation people are exposed to. This is utterly a deontological principle of prohibition that unambiguously correlates with the non-maleficence principle. This is the minimum that is obligatory and must be abided by those who have been authorized to make decisions.

*The principle of optimization* implies that both individual and collective radiation doses must be kept at the lowest possible and achievable level (below the limits set by the current regulations) which takes

into account social and economic factors («as low as reasonably practicable», the ALARP principle). The prohibition imposed by this principle is no longer as strict as the prohibition imposed by the limitation principle since someone must take into account a variety of factors and choose the best option. But this option should be the best not for the business (as it is in the case of utilitarianism), but it should be as harmless as possible for an individual (as far as real circumstances permit). This means that even if all regulations of the Radiation Safety Standards are abided and reduction of radiation dose limits is not economically beneficial, but the real conditions allow doing this, then the optimization principle obliges to level down the limits. But since the concept of «real circumstances» is rather subjective and very close to the principle of justification, this principle could be attributed to conscience of responsible people. This moves the discussion of the issue from the field of external obligation to the area of internal obligation for which *empathy* rather than rationality is required. Thus, the optimization principle is based on the ethical principle of «beneficence» and assumes that the level of consciousness of Big I is involved in making decisions that are to be implemented in practice.

The principle of prudence has been widely discussed in this paper and various ways to interpret it have been provided. Therefore it is sufficient to mention that similarly to the above described optimization principle, prudence considered in the framework of the systems approach to addressing tasks of radiation safety falls in the sphere of internal deontology and corresponds with the bioethical principle of beneficence. What is now known as eco-consciousness that is aimed to be developed in a living generation of humans is practical prudence. The need to take care about future generations and the environment and behave wisely regarding their future wellbeing what assumes that our consciousness is at a high level typical forBig I. However, the reason for prudence here is not a specific aspect of foresight, but rather a systems approach to human thinking available for every sensible person and a sufficient level of competence in an individual's area of expertise.

Even a sketchy linking of the radiation protection principles to bioethics principles, we face the need of finer gradation of ego-levels than the simple Small I and Big I. The example of different meanings of prudence, demonstrates that prudence-foresight requires addressing to deeper levels ofI compared to systems approach based prudence, however both require contribution of Big I. Stillfor purposes of this paper a more detailed analysis will make the understanding of the general trend more difficult, that is why the suggested pattern should be interpreted by readers as tentative and further analyses and discussions are needed to achieve better understanding of the issue.

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#### Summary of radiation safety principles in relation to ethics platforms and concepts

Table 1

Ethical platforms (paradigms)	Consequentialism / Teleology (the ethics of the result)		Deont (ethics of		
	Eudemonism, hedonism, reasonable selfishness (ethics of personal happiness)	Utilitarianism (ethics of public benefit)	Duty as an external rule	Duty as an internal rule	Virtue Ethics (the ethics of the act of a virtuous person)
Basic principle of the ethical platform	Steady pleasure, minimizing the negative consequences	The greatest benefit for the greatest number of people	External compulsion to follow a generally recognized rule or norm	The inner urge from the conscience to follow the moral law	Transformation of acts into virtuous ones due to the initially high ethical level of personality
Required for the ethical platform level of I	Small I	Small I	<i>Small I,</i> conscious of its limitations	Big I	Big I
The aphoristic expression of the ethical platform in the space of culture	Take every- thing from life!	The ends justify the means	The road to hell is paved with good intentions	Freedom is the consciousness of necessity (Benedikt Spinoza, Karl Marx)	First you need to transform the person, then only the cases will follow (Martin Luther)
Symbols of ethical platforms by Sven Henson		«The balance» (weighing)	«The fence» (a limit)		«The compass» (orientation)
The «classical» principles of bioethics (T. Bichamp, J. Childres)			The principle of non-maleficence The principle of justice	The principle of beneficence	The principle of respect for patient autonomy (Dignity)
Principles of bioethics adapted by ICRP			The principle of beneficence/non- maleficence		The principle of respect for patient autonomy (Dignity)
			The principle of justice		The principle/value of prudence (in the meaning of «foresight»)
Principles of Radiation Protection and Safety		The principle of justification	The principle of limitation	The principle of optimization The principle of prudence (in the meaning of «systems approach»)	

#### Summarizes basic ethics platforms, principles of biomedical ethics and ethics of radiation protection employing the level approach

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# ФОРМИРОВАНИЕ ЭТИЧЕСКИХ ПРИНЦИПОВ У СТУДЕНТОВ НА КАФЕДРЕ ТЕРАПЕВТИЧЕСКОЙ СТОМАТОЛОГИИ ВОЛГГМУ

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Обучение студентов деонтологическим принципам является ключевым моментом в формировании будущего доктора, т. к. профессия врача требует серьезного отношения к выполнению своих профессиональных обязанностей, внимательного, доброго отношения к пациентам. На кафедре терапевтической стоматологии ВолгГМУ накоплен большой опыт работы по формирование этических принципов у студентов. В статье освящены основные направления этой работы: активные и интерактивные методы обучения, привлечение студентов к практической работе и т. д. Личный пример и профессионализм преподавателя помогают общению и умению правильно выстроить диалог с пациентом, формируют у студента чувство уверенности в выполнении врачебных действий. Будущему врачу надо уметь анализировать свою работу, правильно оценивать и быть ответственным за качество выполненной работы. Формирование высокообразованной, гармоничной личности врача зависит от уровня его профессиональной подготовки, квалификации, использовании деонтологических принципов в своей работе.

Ключевые слова: деонтология, этические принципы, обучение в медицинском вузе, студенты.

### THE FORMATION OF ETHICAL PRINCIPLES IN STUDENTS AT THE DEPARTMENT FOR THERAPEUTIC DENTISTRY, VOLGOGRAD STATE MEDICAL UNIVERSITY

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Teaching students the principles of ethics is a key element in shaping the future of the doctor, because the profession of a doctor requires a serious attitude to the performance of their professional duties, an attentive, kind attitude to patients. The Department of Therapeutic Dentistry of VolgGMU has accumulated extensive experience in the formation of ethical principles among students. The article focuses on the main areas of this work: active and interactive teaching methods, engaging students in practical work, etc. The personal example and professionalism of the teacher help the communication and the ability to properly build a dialogue with the patient, form the student's sense of confidence in the implementation of medical actions. The future doctor should be able to analyze their work, properly evaluate and be responsible for the quality of the work performed. The formation of a highly educated, harmonious personality of a doctor depends on the level of his professional training, qualifications, and the use of deontological principles in his work.

Key words: deontology, ethical principles, training in a medical school, students.

The profession of a doctor requires a serious approach to his/her professional duties and attentive, positive attitude to patients. Teaching deontological principles to students is a key element in molding future doctors [1, p. 57-58]. Dental ethics is an integral part of general medical ethics which studies the doctor-patient moral and ethical relationships, the medical team collaboration, etc. Therefore, every teacher must be well-versed, highly moral, have good theoretical and practical training, hold moral and ethical potential to teach students to be responsible toward patients for the quality of the work performed. At the Department of Therapeutic Dentistry, the students study not only theoretical material at practical classes, but also acquire practical skills at dental simulator classes and at clinical sites in real life setting. The second year students who lack sufficient theoretical and manual skills begin to conduct independent patient reception under the teacher's supervision. At this stage, the contradictions of medical ethics come into view. On the one hand, we must protect the patient's rights, on the other hand, it is impossible to educate and train a future professional by simulation exercises alone. Therefore, the teacher's personal example and expertise are important at practical classes where he demonstrates the ways to build the doctor-patient relationship, the interaction with colleagues and nurses. Only at this level, the maximum internalization of medical ethics principles occurs. It is first communication and the ability to properly conduct a doctor-patient dialogue that gives the student a sense of confidence in his medical activities. At this stage, you need to teach the student to understand that a modern patient has a responsible attitude towards his health, and he wants to receive skilled care.

Under the conditions of for-profit medicine, the patients who seek dental care want it to be provided by skilled doctors [2, p. 40–42]. Therefore, there are few people who wish to be treated by students. As a rule, these are close relatives who are interested in helping their children gain practical skills. In this environment, a student who receives his first patient is more relaxed and turns his knowledge into practice. However, the problem is the insufficient number of patients requesting an appointment with second-year dental students, which results in the lack of practical skills and experiences to perform patients' evaluation and diagnosis. To solve this problem it is necessary to conduct role-playing in the classroom where one student acts as a patient and the second one as a doctor. The remaining students can act as experts who evaluate the work together with the teacher. The purpose of role-play is to develop students' professional thinking, practical skills and cooperation [3, p. 201–203]. This increases the students' motivation to learn as the proposed clinical situation brings him closer to his professional activities [4, p. 25–27].

The number of classes for third-year students is insufficient (four classes per semester). It is difficult to arrange patients' visits as a result the manual skills acquired in the second year are not reinforced. Therefore, our Department has organized patient reception in the evening student dental clinic under the teachers' supervision. However, some students are reluctant to attend the evening clinic and fail to acquire manual skills. The use of interactive teaching methods allows improving the education quality, internalizing the principles of medical ethics and deontology [6, p. 28-30]. Medical school teachers need to pay attention to the formation of the future dentist's personality (appearance, neatness, responsibility, goodwill) from the first years of studies. The students need to know that every professional is obliged to improve and update his knowledge, and perform only the duties that come under his authority.

In the fourth and fifth years the students' manual skills are reinforced in simulation environment and at clinical sites. The student clinical practice in therapeutic dentistry in the city and regional clinics provides the necessary experience in socializing with patients and medical staff [5, p. 34–35]. It is necessary to focus students' attention on the emerging conflict situations during patients' visits, to teach them the proper doctorpatient and doctor-nurse interaction. Dental care is

sought by different patients of various age categories, nationality, religion, material well-being, with some of them having somatic disorders. Therefore, you need to be able to build relationships with regard to patients' personal characteristics. Knowledge of bioethics principles will help in the future dentist's practice. The future doctor should be able to analyze his activities, correctly evaluate and be responsible for the quality of the work performed, and have self-criticism.

Using modern diagnostic methods the dentist should regard them as additional ones. The main methods are the survey and direct doctor-patient communication. Medical errors are more common in cases where no doctor-patient contact is established. The patients' awareness of their health implies the dentist's enhanced competence in building the doctor-patient relationship based on the dentist's personal characteristics, his tact and intuition.

Thus, the formation of a highly educated, harmonious doctor personality depends on the level of his professional training, qualifications and the use of deontological principles in his work.

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## РЕДАКЦИОННАЯ ЭТИКА ЖУРНАЛА PUBLICATION ETHICS OF THE JOURNAL

Редакционная политика журнала основывается на традиционных этических принципах российской научной периодики и строится с учетом этических норм работы редакторов и издателей, закрепленных в Кодексе поведения и руководящих принципах наилучшей практики для редактора журнала (Code of Conduct and Best Practice Guidelines for Journal Editors) и Кодексе поведения для издателя журнала (Code of Conduct for Journal Publishers), разработанных Комитетом по публикационной этике – Committee on Publication Ethics (COPE). В процессе издательской деятельности редколлегия журнала руководствуется международными правилами охраны авторского права, нормами действующего законодательства РФ, международными издательскими стандартами.

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## ТРЕБОВАНИЯ И УСЛОВИЯ ДЛЯ ПУБЛИКАЦИИ

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В журнал «БИОЭТИКА» в виде статей принимаются научные работы, соответствующие профилю журнала. Основными рубриками научного издания являются:

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- кем представлена статья (фамилия, инициалы и ученая степень рецензента и название организации, рекомендовавшей статью к печати).

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Duo)muka

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