BIOETHICS IN THE KYRGYZ REPUBLIC: EXPERIENCE AND PROSPECTS

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This article examines the Kyrgyz tradition of bioethics and the conditions of its use in higher educational institutions of Kyrgyzstan. The article analyzes formation of bioethics as a science closely related to medicine, veterinary medicine and biology, which studies the relationship between men, animals and other creatures. The bioethical aspects of conducting an experimental and preclinical testing of medicinal herbs and other products that have been used in folk medicine for centuries, as well as their application in practical medicine, are presented. The bioethical aspects of brain transplantation, artificial intelligence (AI) and the use of AI robotics to perform medical manipulations, surgical interventions, as well as tactical mistakes made by them (robots) when performing diagnostic manipulations, operations and when new infections and diseases occur, are considered. The issues of obtaining permits to prepare vaccines and drugs and the issues of studying the "non-natural" human nature are highlighted. In this regard, bioethical science will face many complex tasks that require solutions in the future. The laws of the Kyrgyz Republic related to bioethics and teaching of this discipline in universities of the Kyrgyz Republic, adopted in the period from 1992 to the present (August 2024), are presented.

Key words: bioethics, biomedical studies, science, Kyrgyz tradition, students

✉ **Contribution of authors:** Toichuev RM — preparation of information about Kyrgyz traditions; Abylayeva BA — preparation of information about educational institutions of the Kyrgyz Republic, where bioethics is taught, analysis of the state of affairs in this area; Toichueva AU — collection and preparation of information for the article; Zhilova LV — collection and processing of data for the article, drafting the article.

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Received: 24.07.2024 **Accepted:** 21.08.2024 **Published online:** 24.09.2024

DOI: 10.24075/medet.2024.020

БИОЭТИКА В КЫРГЫЗСКОЙ РЕСПУБЛИКЕ: ОПЫТ И ПЕРСПЕКТИВЫ

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В данной статье рассматриваются биоэтика в кыргызской традиции и условия ее использования в высших учебных заведениях Кыргызстана. Анализируется становление биоэтики, прежде всего, как науки, которая тесно связана с медициной, ветеринарией и биологией, изучающей взаимоотношения человека с человеком, животными и другими существами. Приводятся биоэтические аспекты проведения экспериментального, предклинического испытания лекарственных трав и других средств, которые испокон веков используются в народной медицине, а также их применение в практической медицине. Рассматриваются биоэтические аспекты пересадки головного мозга, искусственного интеллекта (ИИ) и использование ИИ-робототехники для выполнения медицинских манипуляций, оперативных вмешательств, а также допущенные ими (роботами) тактические ошибки при выполнении диагностических манипуляций, операций и при возникновении новых инфекций, болезней. Освещены вопросы получения разрешительных документов для приготовления вакцин и препаратов, вопросы изучения «неприродной» природы человека. В этом плане у биоэтической науки возникнет множество сложных задач, в перспективе требующих решений. Приводятся законы КР, связанные с биоэтикой и преподаванием данной дисциплины в вузах Кыргызской Республики, принятые в период с 1992 г. по настоящее время (август 2024 г.).

Ключевые слова: биоэтика, медико-биологические исследования, наука, кыргызская традиция, студенты

Вклад авторов: Р. М. Тойчуев — подготовка материала о кыргызских традициях; Б. А. Абылаева — подготовка материала по учебным заведениям Кыргызской Республики, в которых преподают предмет «Биоэтика», анализ состояния дел в данной области; А. У. Тойчуева — сбор и подготовка материала для статьи; Л. В. Жилова — сбор и обработка данных для статьи, оформление статьи.

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Статья поступила: 24.07.2024 **Статья принята к печати:** 21.08.2024 **Опубликована онлайн:** 24.09.2024

DOI: 10.24075/medet.2024.020

In the context of development of philosophical, ethical, legal and social institutions of public relations, systematization and integration of biological knowledge and accumulated human values, intellectual and humanistic progress, bioethics can be considered as a concept of self-restraint, closely related primarily to medicine, biology and ecology [1–3]. The issues of bioethics concern all aspects and levels of human interaction with the social and natural environment.

Due to intense technification of human activities, new problems arise that require relevant approaches, including in the field of bioethics, primarily in the medical industry [4, 5]. In particular, in modern practical healthcare, there is a tendency to narrow the diagnostic functions of a doctor due to the growth of technological equipment, expansion of equipment capabilities, complex diagnostic equipment, laboratory and other research methods, and in the future, due to artificial intelligence, neurotechnology and robotics [6]. At the same time, all new drugs go through the modeling stage first. In conclusion, experimental animal studies or trials involving volunteers are traditionally conducted.

Animals put food on the table of the Kyrgyz nomads (their meat and milk was the food; their skin was the clothing, the animals themselves serve as a means of transport, protectors and advisers (in the epic Er Toshtuk, which is a contemporary of the epic Manas). Therefore, the nomads were greeting other people asking: "Mal-Zhan amanby?", i.e., "how are your living

creatures (animals, breadwinners) and soul (well-being of your people)?". Excessive unnecessary extermination of wild animals was not only prohibited, but was also considered as a great sin. It was forbidden to hit animals, especially horses, on the head, to slaughter sick animals for guests, celebrations and sacrifices [7]. Kyrgyz people still follow these traditions, therefore, the use of sick animals in the experiment can also be a subject of discussion.

The history of development of the ethical and philosophical thought of the Kyrgyz people and Kyrgyz thinkers is connected with the activities of the thinkers of the Middle Ages such as Asan-Kaigy (XV century), Tolubai Synchy and Sanchi-Synchy (XVIII century). In fact, Asan-Kaigy proclaims a categorical imperative saying "do as you would be done by", and provides the right of everyone to be understood.

According to the ancient Kyrgyz, initially, nature was the sole ruler of the living system, but then a man was created who became its competitor, i.e. a second ruler. A man, thanks to consciousness, has risen to the highest level of living nature, but he is forced to manage the components of nature in order to meet his needs. The situation resulted in the anthropogenic impact. Unlike nature, which has mechanisms of self-regulation, people began to use their capabilities in an unlimited way; there was a threat of imbalance not only of natural but also of spiritual resources; conflicts between people began to arise due to the clash of interests of various social groups [8–11].

In the Kyrgyz Republic, the current bioethical problem is the experimental, preclinical testing of traditionally used medicinal herbs and other products over a long historical period, since their use requires a huge number of permits, time and other resources. Therefore, when developing a legislative framework for solving modern bioethical issues, it is possible to reflect the provisions that take into account that, due to the long-term practice of using these medicinal products by the population, it is possible to provide for their use without conducting experimental studies.

It should be noted that bioethics has become an academic discipline in many countries of the world. Currently, the regulatory and legal regulation of biomedical research and protection of human rights in this field of activity in the Kyrgyz Republic are carried out by a number of national legal acts, including, in the first place, the Constitution of the Kyrgyz Republic.

The following laws of the Kyrgyz Republic have been adopted:

- "On the protection of citizens' health" (1992);
- "On donation of blood and its components" (1992);
- "On the reproductive rights of citizens" (2000);
- "On the provision of psychiatric care" (2004);
- The laws of the Russian Federation, the successor of the USSR, are also used:
- "On transplantation of human organs and tissues" (1992); "On psychiatric care and guarantees of citizens' rights in its provision" (1992);
- "On the protection of citizens' health" (1993).

At the same time, the country's legislation provides for a mechanism for using international legal norms in their absence in the national legislation. The Ministry of Health of the Kyrgyz Republic is responsible for organizing ethics committees at all levels in the Kyrgyz Republic.

The National Ethics Committee, responsible for making decisions on the ethical examination of both national and international biomedical research, was established in 1998 to implement the state policy of drug provision under the Ministry of Health of the Kyrgyz Republic.

The rules of work and tasks of the ethics committee are defined within the framework of the law "On Medicines" adopted in 1997, supplemented and revised in 2003, in accordance with the basic provisions, tasks and procedures of the Ethics Committee under the Ministry of Health of the Kyrgyz Republic.

Currently, in Kyrgyzstan, bioethics is taught in all higher medical educational institutions and at some veterinary and biological faculties [12–17]. In Kyrgyzstan, the recommendations entitled "Ethical expertise of biomedical research in the CIS member states" are used as a basis for teaching bioethics. The recommendations were developed by scientists from the CIS countries in St. Petersburg in 2007. They are intended for:

- members of ethics committees;
- clinical researchers;
- employees of contract research organizations;
- employees of pharmaceutical companies;
- specialists of the Research Institute and doctors;
- teachers and students;
- employees of regulatory authorities.

The leading educational institutions implementing bioethics programs in Kyrgyzstan are represented by:

- Kyrgyz State Medical Academy named after Akhunbayev IK;
- Medical Faculty of the Kyrgyz-Russian (Slavic) University;
- Faculty of Medicine at the International University of Kyrgyzstan;
- Faculty of Medicine at Osh State University;
- Kyrgyz National Agrarian University named after Scriabin.

It should be noted that bioethics has not been introduced into the state standard of education of the Kyrgyz Republic. Bioethics is taught at the pre-graduate stage at the Kyrgyz State Medical Academy named after Akhunbayev IK according to the curriculum. The course consists of 54 hours, i.e. 36 hours of lectures and 18 hours of practical training at seminars.

Bioethics has been taught at the Department of Anesthesiology, Intensive Care and Intensive Care since 2011. 4th year students who study medicine, pediatrics and dentistry undergo the course of bioethics entitled Bioethics in Anesthesiology and Intensive Care. The teachers are anesthesiologists and intensive care physicians.

At the Medical Faculty of the Kyrgyz-Russian (Slavic) University, the discipline "Ethical and legal control of biomedical experiments" was taught at the department of general medicine with 19 hours of lectures and 19 hours of seminars.

Currently, at the Faculty of Medicine of the KRSU, bioethics is taught to students of medical, pediatric, dental specialties at the Department of Public Health and Healthcare. It is also included into the principal educational program preparing doctors for the humanitarian, social and economic cycle (code C.1). The program of bioethics includes 2 credits, 72 hours (18 hours of lectures, 18 hours of seminars, and 36 hours of independent work), 12 hours of individual work, whereas the subject is studied in the 4th semester of the 2nd year.

At the Faculty of Medicine at the International University of Kyrgyzstan, bioethics is taught at the Department of Public Health (2nd year, medicine). Social doctors are the teachers.

At the Kyrgyz National Agrarian University named after Scriabin, bioethics is taught in the 2nd year and cover the following topics:

1. Traditional knowledge of crop production (ethnobotany — 20 hours of lectures, 20 hours of practice).
2. Traditional knowledge of veterinary medicine.
3. Traditional knowledge of animal husbandry (4th year; 17 hours of lectures; specialty — biology).
4. Traditional food knowledge on agricultural crops.

Bioethics is taught in the 1st year at the Department of Public Health and Medical Faculty of Osh State University. 30 hours total, including 18 hours of practice, 12 hours of lectures.

Bioethics is studied by students of medical and preventive medicine, dentists, physicians, pharmacologists, pediatricians. The subject is taught by social activists. Bioethics is taught to bioengineers at the Faculty of Biology of the same University.

At Jalal-Abad State University, the course in Ethnobotany (taught in the 2nd year) includes Plant Ethology (15 hours of lectures and 15 hours of practice) and Ethology (behavior) of Animals and Insects (15 hours of lectures and 15 hours of practice).

Thus, there is currently no unified approach to teaching Bioethics in Kyrgyzstan, including medical universities. It is taught by teachers of various professions, from teachers of social sciences to doctors. There are very few specially trained teachers. Coordinating bodies with responsible persons are just being created.

Today, achievements of science go hand in hand to new bioethical problems such as growing individual organs from a single cell (stem cells) to replace "worn out" organs in the body [18, 19], growing a whole, so called 'unnatural person' [23–25] from a single cell, including an embryonic one [20–22]; transplantation of head and brain [26–28].

One of the main problems of bioethics is obtaining permits in case of occurrence of new or modified highly pathogenic viruses and microbes in nature [29–31]. In this aspect, the coronavirus pandemic has shown that at least 8–10 months pass before introduction of the vaccine, and in the case of new highly contagious and pathogenic infections, humanity is "exterminated" before the vaccines are introduced [24, 32]. All this requires development of accelerated ways to obtain vaccines and new drugs, as well as a significant reduction in the time of their testing and approval for use.

These problems require urgent solutions. Bioethical problems related to technologization include creation of "thinking" technologies, up to the production of artificial and later a thinking person, artificial intelligence (AI), robotics, and their admission to manipulation, diagnosis and treatment, and in the future, to performance of complex operations [19, 26].

In this regard, bioethical science will face many complex tasks that require solutions in the future.

To solve existing bioethical problems, it is necessary to optimize the following processes: creation of an "unnatural" person from a single cell, transplantation of a human head and brain, the problems of accelerated vaccination, creation of artificial intelligence such as technologization, robotization and their participation in medical manipulations and surgical treatment.

Against the background of increased entropy, changes in the course of diseases, appearance of new "organisms" and pathologies associated not only with humans, but also with micro-worlds, including an increase in the number of antibiotic-resistant microorganisms, can be predicted in the future [32, 33]. As a result of the appearance of "new" organic compounds, bioethical problems arise that require urgent solutions, new approaches to their consideration on large volumes of materials combined by scientists of the world in order to preserve humanity. In order to solve the priority tasks of training teachers and bioexperts, it is necessary to regularly hold seminars, conferences, develop and implement collective recommendations, and issue methodological manuals.

The bibliographic list below shows that work in this direction is actively underway both at the national level of the Kyrgyz Republic and within the international community.

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