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INFLUENCE OF BIOTECHNOLOGICAL DISCOVERIES ON BODY SAFETY

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Annotation: in this article covers the current issue of body safety. It reveals the relationship between modern scientific achievements and the human factor, based on moral and humanistic values.

Key words: ethics, humanism, value, human technologies trans-technological.

Introduction: These areas have developed as a result of the development of technological processes in the fields of medicine and biology. Currently, the components of trans-technological evolution are included in new technologies (nano-, bio-, info- and cogno), as well as in the growing line of their NBIC combination. As an objective situation, we can imagine the birth of more advanced forms and methods of technology in the future.

As a result of the introduction of scientific and technical achievements into the field of medicine, several subspecialties have appeared, including resuscitation, transplantology, xenotransplantation, genetic engineering, plastic surgery, and others.

Below is a list of some of the discoveries made in the field of biotechnology:

1. Transplantation of organs and tissues (liver, heart, kidney, etc.) from one person to another;
2. Stem cell transplantation, growing human organs in animals, gene exchange between species, breeding transgenic animals that produce human enzymes, creating human-animal hybrids;
3. Hormones, laser, plastic and sexual surgery used to change a person's body and physical structure, to change sex;
4. Genetic engineering for the purpose of improving heredity, treating and eliminating hereditary diseases and defects (such as Down's syndrome, Alzheimer's disease, hereditary cancer) and creating human-animal hybrids;
5. Hormones used to change human libidinal and structural characteristics;
6. Hormones used to change the human body and physical structure;
7. Household waste reproducing processes using microorganisms;
8. Development and use of highly effective drugs for the treatment of AIDS, drug addiction, alcoholism and other diseases, as well as cardiovascular diseases, endocrine system diseases, lung diseases and other chronic diseases;
9. The use of a wide variety of prostheses, including plastic lenses, hearing aids, knee and hip joints, etc.;
10. Consumption of psychotherapeutic agents affecting the human psyche;
11. Use of various types of prostheses: use of artificial lenses, hearing aids, knee, hip joints, etc.;
12. Different types of laser devices: computer tomography (CT), magnetic resonance angiography (MRI), multispiral computer tomography (MSCT), electrocardiography (ECG), electromyography (EMG), electroneuromyography (ENMG), electrocardiogram (ECG), electroencephalography (EEG), positron emission tomography (PET), ultrasound dopplerography (UTD) and positron emission tomography (PET).
13. Artificial food products, bioclimates, genetically modified organisms (GMO), biodegradable polymers, vaccines, DNA, RNA and polymerase chain reaction (PCR) analyses;

14. Artificial insemination and surrogate pregnancy, biochemical reagents;
15. Cloning, robotics with artificial intelligence and implant chips;

IFA test systems used in the field of oncology, hematology, veterinary medicine and food safety. Use of microorganisms to clean up oil spills in ocean waters.

By the 21st century, science has become a real economic force that contributes to the development of both the state and society. Countries such as the United States of America, China, India, Canada, Japan and the European Union are the most important producers of biotechnology products. This ratio is growing every year, and the total volume of investments directed to the field of biotechnology around the world is now 32 percent.

The development of modern biotechnology has made it possible not only to save and cure human life, but also to implement programs that give people the ability to control their own lives through the use of biotechnology. It has prevented accidents that can be observed in nature (such as genetic diseases), which is a good feature; nevertheless, at the same time, it requires taking responsibility for the damage related to it and that may occur.

Philosophical, ethical and socio-humanitarian interpretation of risk was presented as a permissible deviation from the normal path of human growth as a result of the development of biotechnology, which led to difficulties in determining the limits of biotechnological intervention in human life. [1:4]

If we look at biotechnological initiatives from a philosophical and ethical point of view, there is a need for ethical research in the field of biomedical research. When it comes to controlling the techno-scientific nature of modern science and the socio-humanitarian assessment of the dangers posed by biotechnologies, ethics serves as an expert.

Bioethics conducted a dialogue between biomedicine, philosophy and law, analyzed the consequences of biotechnology, presented conceptual solutions and developed legal norms. This is the primary task of bioethics in the process of studying ethical, social and legal problems that have arisen as a result of the development of biomedical technologies.

The rise of the human rights movement around the world has been a driving force behind the development of bioethics in the field. As a result of the world wars of the 20th century, millions of people became hopeless. Terrible human experiments were carried out for medical research in Nazi Germany's concentration camps. Therefore, it became necessary to examine the moral consequences of events related to wars. This raises the question of whether medical examinations of people in concentration camps can be justified, even if the trials were conducted for political or scientific reasons. The Nuremberg Trials were very important in understanding the consequences of World War II. The Nuremberg Code was adopted in 1947. The Nuremberg Code was adopted to create a set of guidelines for working with medical professionals and scientists who conducted biomedical research on prisoners in concentration camps. The rules for conducting medical experiments on humans are published for the first time in this publication. This code has served as a model for many subsequent codes designed to ensure that research involving human subjects is conducted ethically.

Since 1945, several organizations have adopted various standards to ensure the appropriate and responsible use of human subjects in medical research. These include the Nuremberg Code (1947), the Declaration of Helsinki (1965) [2:3-10] , the Tokyo Declaration (1975)[3:2-15], the Venice Declaration (1983), the Belmont Report (1978), the American National Commission on Subjects' Rights, Biomedical and Behavioral Research)[4:47-49], and Council of Europe Conventions on Human Rights and Biomedicine (1997). All of these documents are designed to protect the rights of individuals involved in biomedical research. [5:11-12]

The primary goal of medical research is to distinguish between diagnostic and therapeutic procedures in a clear and consistent manner. In addition, it was noted that extra care should be taken when conducting experiments that may harm the environment and the future of animals.

In order to prevent the negative impact of science and technology development on human health and ecosystem, the society organizes social institutions in order to participate in the moral debate and control these impacts. [6:32]. There are three levels at which it is developed for understanding and decision-making: the most common level is at the level of public organizations, at the level of ethics committees, and at the level of civil society.

Ethics committees serve as analytical, advisory, and regulatory bodies. Ethics committees are responsible for conducting ethical expertise and making recommendations in case of conflicting situations in the course of conducting biomedical research or activities conducted by medical institutions. Ethics committees from the United States and Canada eventually made their way to Europe and Japan. Research ethics committees, hospital committees, and the United States President's National Advisory Commission on Bioethics (established in 1996) are three different types of ethics committees in the United States. [6:32-33] Regulatory and punitive functions are carried out by ethics committees in the United States, and these committees are governed by federal law.

The scope of goals and methods of organizing their work are one of the distinctive features of the European Ethics Committee. European ethics committees are responsible for their activities at the national and regional level. Development of general ethical guidelines and conducting ethical analysis of biomedical research at the regional level are tasks assigned to national committees. The activities of the committees include a number of important components, including protection of the rights of subjects participating in the research, development of methods of obtaining informed consent, resolution of moral conflicts arising during treatment, and development of ethical relations, legal education among medical workers, patients and their relatives, considering the appropriate balance between risks and benefits associated with participation in innovative programs. [6:33]

In conclusion, it can be said that the result of a person's purposeful action should always be based on human dignity and human moral norms. It is necessary that the results of the implementation of modern scientific achievements in practice should not go beyond the ideas of humanism. Scientific achievements certainly make a great contribution to the development of society and the development of countries. In this article, we focused on the achievements in the field of medicine and biology. From the deontological point of view, as long as every person carries out his duties and responsibilities based on the principles of humanity, doing good, justice, and "doing no harm", each of our actions will have a positive tone and manifest itself in human and moral relations in society.

References.

1. Белялетдинов Р.Р. Риск современных биотехнологий: философские аспекты. Дисс. , - М:, 2017. -С. 4..
2. Нюрнбергский кодекс 1947 год Архивная копия от 24 октября 2015 на Wayback Machine -Права и свободы человека в психиатрии.
3. Declaration of Helsinki, WMA, 1964, 1975, 1983, 1989, 1996, 2004
4. Нюрнбергский кодекс // Аналитические материалы по проекту "Анализ нормативно-правовой базы в области прав человека в контексте биомедицинских исследований и выработка рекомендаций по ее усовершенствованию". М.: Издательство Московского гуманитарного университета, 2007 г. -С. 47-49.
5. Invention on Human Rights and Biomedicine, Council of Europe, 1997.
6. Кетова Т.Н. Биоэтика как этап развития гуманизма. Мультидисциплинарный медицинский журнал «Ученые записки» СПбГМУ им.акад. И.П.Павлова. – СПб, 2015., Том-XXI. №4. стр 32-33.